



SEQUENCE LISTING

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<120> Methods Of Screening For Compounds That Modulate the  
LSR-Leptin Interaction and Their Use in the Prevention  
and Treatment of Obesity-Related Diseases

<130> 70.US2.REG

<140> 09/668,558

<141> 2000-09-22

<150> 60/155,506

<151> 1999-09-22

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<170> Patent.pm

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gct cct gcc agg gcc atc cag gtg acc gtg tcc aac ccc tac cac gtg 403

Ala	Pro	Ala	Arg	Ala	Ile	Gln	Val	Thr	Val	Ser	Asn	Pro	Tyr	His	Val		
85					90					95					100		
gtg	atc	ctc	ttc	cag	cct	gtg	acc	ctg	ccc	tgt	acc	tac	cag	atg	acc	451	
Val	Ile	Leu	Phe	Gln	Pro	Val	Thr	Leu	Pro	Cys	Thr	Tyr	Gln	Met	Thr		
				105					110					115			
tcg	acc	ccc	acg	caa	ccc	atc	gtc	atc	tgg	aag	tac	aag	tct	ttc	tgc	499	
Ser	Thr	Pro	Thr	Gln	Pro	Ile	Val	Ile	Trp	Lys	Tyr	Lys	Ser	Phe	Cys		
			120					125					130				
cgg	gac	cgc	atc	gcc	gat	gcc	ttc	tcc	ccg	gcc	agc	gtc	gac	aac	cag	547	
Arg	Asp	Arg	Ile	Ala	Asp	Ala	Phe	Ser	Pro	Ala	Ser	Val	Asp	Asn	Gln		
			135				140					145					
ctc	aat	gcc	cag	ctg	gca	gcc	ggg	aac	cca	ggc	tac	aac	ccc	tac	gty	595	
Leu	Asn	Ala	Gln	Leu	Ala	Ala	Gly	Asn	Pro	Gly	Tyr	Asn	Pro	Tyr	Val		
	150					155				160							
gag	tgc	cag	gac	agc	gtg	cgc	acc	gtc	agg	gtc	gtg	gcc	acc	aag	cag	643	
Glu	Cys	Gln	Asp	Ser	Val	Arg	Thr	Val	Arg	Val	Val	Ala	Thr	Lys	Gln		
	165				170				175						180		
ggc	aac	gct	gtg	acc	ctg	gga	gat	tac	tac	cag	ggc	cgg	agg	att	acc	691	
Gly	Asn	Ala	Val	Thr	Leu	Gly	Asp	Tyr	Tyr	Gln	Gly	Arg	Arg	Ile	Thr		
			185					190						195			
atc	acc	gga	aat	gct	gac	ctg	acc	ttt	gac	cag	acg	gcg	tgg	ggg	gac	739	
Ile	Thr	Gly	Asn	Ala	Asp	Leu	Thr	Phe	Asp	Gln	Thr	Ala	Trp	Gly	Asp		
			200					205					210				
agt	ggt	gtg	tat	tac	tgc	tcc	gtg	gtc	tca	gcc	cag	gac	ctc	cag	ggg	787	
Ser	Gly	Val	Tyr	Tyr	Cys	Ser	Val	Val	Ser	Ala	Gln	Asp	Leu	Gln	Gly		
		215					220					225					
aac	aat	gag	gcc	tac	gca	gag	ctc	atc	gtc	ctt	ggg	agg	acc	tca	ggg	835	
Asn	Asn	Glu	Ala	Tyr	Ala	Glu	Leu	Ile	Val	Leu	Gly	Arg	Thr	Ser	Gly		
		230				235				240							
gtg	gct	gag	ctc	tta	cct	ggt	ttt	cag	gcg	ggg	ccc	ata	gaa	gac	tgg	883	
Val	Ala	Glu	Leu	Leu	Pro	Gly	Phe	Gln	Ala	Gly	Pro	Ile	Glu	Asp	Trp		
	245				250				255						260		
ctc	ttc	gtg	gtt	gtg	gta	tgc	ctg	gct	gcc	ttc	ctc	atc	ttc	ctc	ctc	931	
Leu	Phe	Val	Val	Val	Val	Cys	Leu	Ala	Ala	Phe	Leu	Ile	Phe	Leu	Leu		
			265					270					275				
ctg	ggc	aty	tgc	tgg	tgc	cag	tgc	tgc	ccg	cac	act	tgc	tgc	tgc	tac	979	
Leu	Gly	Ile	Cys	Trp	Cys	Gln	Cys	Cys	Pro	His	Thr	Cys	Cys	Cys	Tyr		
		280					285					290					
gtc	agg	tgc	ccc	tgc	tgc	cca	gac	aag	tgc	tgc	tgc	ccc	gag	gcc	ctg	1027	
Val	Arg	Cys	Pro	Cys	Cys	Pro	Asp	Lys	Cys	Cys	Cys	Pro	Glu	Ala	Leu		
		295				300						305					
tat	gcc	gcc	ggc	aaa	gca	gcc	acc	tca	ggt	gtt	ccc	agc	att	tat	gcc	1075	
Tyr	Ala	Ala	Gly	Lys	Ala	Ala	Thr	Ser	Gly	Val	Pro	Ser	Ile	Tyr	Ala		
	310				315					320							
ccc	agc	acc	tat	gcc	cac	ctg	tct	ccc	gcc	aag	acc	cca	ccc	cca	cca	1123	
Pro	Ser	Thr	Tyr	Ala	His	Leu	Ser	Pro	Ala	Lys	Thr	Pro	Pro	Pro	Pro		
	325			330					335						340		
gct	atg	att	ccc	atg	ggc	cct	gcc	tac	aac	ggg	tac	cct	gga	gga	tac	1171	
Ala	Met	Ile	Pro	Met	Gly	Pro	Ala	Tyr	Asn	Gly	Tyr	Pro	Gly	Gly	Tyr		
			345				350					355					
cct	gga	gac	gtt	gac	agg	art	agc	tca	gct	ggt	ggc	caa	ggc	tcc	tat	1219	
Pro	Gly	Asp	Val	Asp	Arg	Xaa	Ser	Ser	Ala	Gly	Gly	Gln	Gly	Ser	Tyr		
		360					365					370					
gta	ccc	ctg	ctt	cgg	gac	acg	gac	agc	agt	gtg	gcc	tct	gaa	gtc	cgc	1267	
Val	Pro	Leu	Leu	Arg	Asp	Thr	Asp	Ser	Ser	Val	Ala	Ser	Glu	Val	Arg		
		375				380					385						
agt	ggc	tac	agg	att	cag	gcc	agc	cag	cag	gac	gac	tcc	atg	cgg	gtc	1315	
Ser	Gly	Tyr	Arg	Ile	Gln	Ala	Ser	Gln	Gln	Asp	Asp	Ser	Met	Arg	Val		
	390				395					400							

ctg tac tac atg gag aag gag ctg gcc aac ttc gac cct tct cga cst	1363
Leu Tyr Tyr Met Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser Arg Xaa	
405 410 415 420	
ggc ccc ccc agt ggc cgt gtg gag cgg gcc atg agt gaa gtc acc tcc	1411
Gly Pro Pro Ser Gly Arg Val Glu Arg Ala Met Ser Glu Val Thr Ser	
425 430 435	
ctc cac gag gac gac tgg cga tct cgg cct tcc cgg ggc cct gcc ctc	1459
Leu His Glu Asp Asp Trp Arg Ser Arg Pro Ser Arg Gly Pro Ala Leu	
440 445 450	
acc ccg atc cgg gat gag gag tgg ggt ggc cac tcc ccc cgg agt ccc	1507
Thr Pro Ile Arg Asp Glu Glu Trp Gly Gly His Ser Pro Arg Ser Pro	
455 460 465	
agg gga tgg gac cag gag ccc gcc agg gag cag gca ggc ggg ggc tgg	1555
Arg Gly Trp Asp Gln Glu Pro Ala Arg Glu Gln Ala Gly Gly Gly Trp	
470 475 480	
cgg gcc agg cgg ccc cgg gcc cgc tcc gtg gac gcc ctg gac gac ctc	1603
Arg Ala Arg Arg Pro Arg Ala Arg Ser Val Asp Ala Leu Asp Asp Leu	
485 490 495 500	
acc ccg ccg agc acc gcc gag tca ggg agc agg tct ccc acg agt aat	1651
Thr Pro Pro Ser Thr Ala Glu Ser Gly Ser Arg Ser Pro Thr Ser Asn	
505 510 515	
ggt ggg aga agc cgg gcc tac atg ccc ccg cgg agc cgc agc cgg gac	1699
Gly Gly Arg Ser Arg Ala Tyr Met Pro Pro Arg Ser Arg Ser Arg Asp	
520 525 530	
gac ctc tat gac caa gac gac tcg agg gac ttc cca cgc tcc cgg gac	1747
Asp Leu Tyr Asp Gln Asp Asp Ser Arg Asp Phe Pro Arg Ser Arg Asp	
535 540 545	
ccc cac tac gac gac ttc agg tct cgg gag cgc cct cct gcc gac ccc	1795
Pro His Tyr Asp Asp Phe Arg Ser Arg Glu Arg Pro Pro Ala Asp Pro	
550 555 560	
agg tcc cac cac cac cgt acc cgg gac cct cgg gac aac ggc tcc agg	1843
Arg Ser His His His Arg Thr Arg Asp Pro Arg Asp Asn Gly Ser Arg	
565 570 575 580	
tcc ggg gac ctc ccc tat gat ggg cgg cta ctg gag gag gct gtg agg	1891
Ser Gly Asp Leu Pro Tyr Asp Gly Arg Leu Leu Glu Glu Ala Val Arg	
585 590 595	
aag aag ggg tcg gag gag agg agg aga ccc cac aag gag gag gag gaa	1939
Lys Lys Gly Ser Glu Glu Arg Arg Arg Pro His Lys Glu Glu Glu Glu	
600 605 610	
gag gcc tac tac ccg ccc gcg ccg ccc ccg tac tcg gag acc gac tcg	1987
Glu Ala Tyr Tyr Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr Asp Ser	
615 620 625	
cag gcg tcc cga gag cgc agg ctc aag aag aac ttg gcc ctg agt cgg	2035
Gln Ala Ser Arg Glu Arg Arg Leu Lys Lys Asn Leu Ala Leu Ser Arg	
630 635 640	
gaa agt tta gtc gtc tga tctgacgttt tctacgtagc ttttgkattt	2083
Glu Ser Leu Val Val *	
645 650	
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aacgtataat caca	2158

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<220>  
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 <222> 363

<223> 9-7-325 : polymorphic amino acid Ser or Asn

<220>

<221> VARIANT

<222> 420

<223> 9-9-246 : polymorphic amino acid Pro or Arg

<220>

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<223> LSRX9f13-BM : polymorphic amino acid deletion of Arg

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Gly	Arg	Ser	Val	His	Pro	Ser	Trp	Pro	Trp	Cys	Ala	Pro	Arg	Pro	Leu
			20					25					30		
Arg	Tyr	Phe	Gly	Arg	Asp	Ala	Arg	Ala	Arg	Arg	Ala	Gln	Thr	Ala	Ala
		35					40					45			
Met	Ala	Leu	Leu	Ala	Gly	Gly	Leu	Ser	Arg	Gly	Leu	Gly	Ser	His	Pro
	50					55					60				
Ala	Ala	Ala	Gly	Arg	Asp	Ala	Val	Val	Phe	Val	Trp	Leu	Leu	Leu	Ser
65					70					75					80
Thr	Trp	Cys	Thr	Ala	Pro	Ala	Arg	Ala	Ile	Gln	Val	Thr	Val	Ser	Asn
				85					90					95	
Pro	Tyr	His	Val	Val	Ile	Leu	Phe	Gln	Pro	Val	Thr	Leu	Pro	Cys	Thr
			100					105					110		
Tyr	Gln	Met	Thr	Ser	Thr	Pro	Thr	Gln	Pro	Ile	Val	Ile	Trp	Lys	Tyr
		115					120					125			
Lys	Ser	Phe	Cys	Arg	Asp	Arg	Ile	Ala	Asp	Ala	Phe	Ser	Pro	Ala	Ser
	130					135					140				
Val	Asp	Asn	Gln	Leu	Asn	Ala	Gln	Leu	Ala	Ala	Gly	Asn	Pro	Gly	Tyr
145					150					155					160
Asn	Pro	Tyr	Val	Glu	Cys	Gln	Asp	Ser	Val	Arg	Thr	Val	Arg	Val	Val
				165					170					175	
Ala	Thr	Lys	Gln	Gly	Asn	Ala	Val	Thr	Leu	Gly	Asp	Tyr	Tyr	Gln	Gly
			180					185					190		
Arg	Arg	Ile	Thr	Ile	Thr	Gly	Asn	Ala	Asp	Leu	Thr	Phe	Asp	Gln	Thr
			195				200					205			
Ala	Trp	Gly	Asp	Ser	Gly	Val	Tyr	Tyr	Cys	Ser	Val	Val	Ser	Ala	Gln
	210					215					220				
Asp	Leu	Gln	Gly	Asn	Asn	Glu	Ala	Tyr	Ala	Glu	Leu	Ile	Val	Leu	Gly
225					230					235					240
Arg	Thr	Ser	Gly	Val	Ala	Glu	Leu	Leu	Pro	Gly	Phe	Gln	Ala	Gly	Pro
				245					250					255	
Ile	Glu	Asp	Trp	Leu	Phe	Val	Val	Val	Val	Cys	Leu	Ala	Ala	Phe	Leu
			260					265					270		
Ile	Phe	Leu	Leu	Leu	Gly	Ile	Cys	Trp	Cys	Gln	Cys	Cys	Pro	His	Thr
			275				280					285			
Cys	Cys	Cys	Tyr	Val	Arg	Cys	Pro	Cys	Cys	Pro	Asp	Lys	Cys	Cys	Cys
	290					295					300				
Pro	Glu	Ala	Leu	Tyr	Ala	Ala	Gly	Lys	Ala	Ala	Thr	Ser	Gly	Val	Pro
305					310					315					320
Ser	Ile	Tyr	Ala	Pro	Ser	Thr	Tyr	Ala	His	Leu	Ser	Pro	Ala	Lys	Thr
				325					330					335	
Pro	Pro	Pro	Pro	Ala	Met	Ile	Pro	Met	Gly	Pro	Ala	Tyr	Asn	Gly	Tyr
			340					345					350		
Pro	Gly	Gly	Tyr	Pro	Gly	Asp	Val	Asp	Arg	Ser	Ser	Ser	Ala	Gly	Gly
			355				360						365		

Gln Gly Ser Tyr Val Pro Leu Leu Arg Asp Thr Asp Ser Ser Val Ala  
 370 375 380  
 Ser Glu Val Arg Ser Gly Tyr Arg Ile Gln Ala Ser Gln Gln Asp Asp  
 385 390 395 400  
 Ser Met Arg Val Leu Tyr Tyr Met Glu Lys Glu Leu Ala Asn Phe Asp  
 405 410 415  
 Pro Ser Arg Pro Gly Pro Pro Ser Gly Arg Val Glu Arg Ala Met Ser  
 420 425 430  
 Glu Val Thr Ser Leu His Glu Asp Asp Trp Arg Ser Arg Pro Ser Arg  
 435 440 445  
 Gly Pro Ala Leu Thr Pro Ile Arg Asp Glu Glu Trp Gly Gly His Ser  
 450 455 460  
 Pro Arg Ser Pro Arg Gly Trp Asp Gln Glu Pro Ala Arg Glu Gln Ala  
 465 470 475 480  
 Gly Gly Gly Trp Arg Ala Arg Arg Pro Arg Ala Arg Ser Val Asp Ala  
 485 490 495  
 Leu Asp Asp Leu Thr Pro Pro Ser Thr Ala Glu Ser Gly Ser Arg Ser  
 500 505 510  
 Pro Thr Ser Asn Gly Gly Arg Ser Arg Ala Tyr Met Pro Pro Arg Ser  
 515 520 525  
 Arg Ser Arg Asp Asp Leu Tyr Asp Gln Asp Asp Ser Arg Asp Phe Pro  
 530 535 540  
 Arg Ser Arg Asp Pro His Tyr Asp Asp Phe Arg Ser Arg Glu Arg Pro  
 545 550 555 560  
 Pro Ala Asp Pro Arg Ser His His His Arg Thr Arg Asp Pro Arg Asp  
 565 570 575  
 Asn Gly Ser Arg Ser Gly Asp Leu Pro Tyr Asp Gly Arg Leu Leu Glu  
 580 585 590  
 Glu Ala Val Arg Lys Lys Gly Ser Glu Glu Arg Arg Arg Pro His Lys  
 595 600 605  
 Glu Glu Glu Glu Glu Ala Tyr Pro Pro Ala Pro Pro Pro Tyr Ser  
 610 615 620  
 Glu Thr Asp Ser Gln Ala Ser Arg Glu Arg Arg Leu Lys Lys Asn Leu  
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 Ala Leu Ser Arg Glu Ser Leu Val Val  
 645

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 <222> 595  
 <223> 9-3-324 : polymorphic base C or T

<220>  
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 <223> 9-6-187 : polymorphic base C or T

<220>  
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 <222> 1134  
 <223> 9-7-325 : polymorphic base A or G

<220>  
 <221> allele

<223> 9-9-246 : polymorphic base G or C

<221> allele

<223> LSRX9f13-BM : polymorphic base deletion of AGG

<222> 2022

<223> LSRX9f14-BM : polymorphic base T or G

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atgccctttg	tccacgtcgt	ttacgtcat	taaaacttcc	aga atg caa cag gac		115
				Met Gln Gln Asp		

gga	ctt	gga	gta	ggg	aca	agg	aac	gga	agt	ggg	aag	ggg	agg	agc	gtg	163
Gly	Leu	Gly	Val	Gly	Thr	Arg	Asn	Gly	Ser	Gly	Lys	Gly	Arg	Ser	Val	
5					10					15					20	
cac	ccc	tcc	tgg	cct	tgg	tgc	gcg	ccg	cgc	ccc	cta	agg	tac	ttt	gga	211
His	Pro	Ser	Trp	Pro	Trp	Cys	Ala	Pro	Arg	Pro	Leu	Arg	Tyr	Phe	Gly	
				25					30					35		
agg	gac	gcg	cgg	gcc	aga	cgc	gcc	cag	acg	gcc	gcg	atg	gcg	ctg	ttg	259
Arg	Asp	Ala	Arg	Ala	Arg	Arg	Ala	Gln	Thr	Ala	Ala	Met	Ala	Leu	Leu	
			40					45				50				
gcc	ggc	ggg	ctc	tcc	aga	ggg	ctg	ggc	tcc	cac	ccg	gcc	gcc	gca	ggc	307
Ala	Gly	Gly	Leu	Ser	Arg	Gly	Leu	Gly	Ser	His	Pro	Ala	Ala	Ala	Gly	
		55					60					65				
cgg	gac	gcg	gtc	gtc	ttc	gtg	tgg	ctt	ctg	ctt	agc	acc	tgg	tgc	aca	355
Arg	Asp	Ala	Val	Val	Phe	Val	Trp	Leu	Leu	Leu	Ser	Thr	Trp	Cys	Thr	
	70					75					80					
gct	cct	gcc	agg	gcc	atc	cag	gtg	acc	gtg	tcc	aac	ccc	tac	cac	gtg	403
Ala	Pro	Ala	Arg	Ala	Ile	Gln	Val	Thr	Val	Ser	Asn	Pro	Tyr	His	Val	
85					90					95					100	
gtg	atc	ctc	ttc	cag	cct	gtg	acc	ctg	ccc	tgt	acc	tac	cag	atg	acc	451
Val	Ile	Leu	Phe	Gln	Pro	Val	Thr	Leu	Pro	Cys	Thr	Tyr	Gln	Met	Thr	
				105					110					115		
tcg	acc	ccc	acg	caa	ccc	atc	gtc	atc	tgg	aag	tac	aag	tct	ttc	tgc	499
Ser	Thr	Pro	Thr	Gln	Pro	Ile	Val	Ile	Trp	Lys	Tyr	Lys	Ser	Phe	Cys	
			120					125					130			
cgg	gac	cgc	atc	gcc	gat	gcc	ttc	tcc	ccg	gcc	agc	gtc	gac	aac	cag	547
Arg	Asp	Arg	Ile	Ala	Asp	Ala	Phe	Ser	Pro	Ala	Ser	Val	Asp	Asn	Gln	
			135				140					145				
ctc	aat	gcc	cag	ctg	gca	gcc	ggg	aac	cca	ggc	tac	aac	ccc	tac	gty	595
Leu	Asn	Ala	Gln	Leu	Ala	Ala	Gly	Asn	Pro	Gly	Tyr	Asn	Pro	Tyr	Val	
				150			155				160					
gag	tgc	cag	gac	agc	gtg	cgc	acc	gtc	agg	gtc	gtg	gcc	acc	aag	cag	643
Glu	Cys	Gln	Asp	Ser	Val	Arg	Thr	Val	Arg	Val	Val	Ala	Thr	Lys	Gln	
165					170					175					180	
ggc	aac	gct	gtg	acc	ctg	gga	gat	tac	tac	cag	ggc	cgg	agg	att	acc	691
Gly	Asn	Ala	Val	Thr	Leu	Gly	Asp	Tyr	Tyr	Gln	Gly	Arg	Arg	Ile	Thr	
				185					190					195		
atc	acc	gga	aat	gct	gac	ctg	acc	ttt	gac	cag	acg	gcg	tgg	ggg	gac	739
Ile	Thr	Gly	Asn	Ala	Asp	Leu	Thr	Phe	Asp	Gln	Thr	Ala	Trp	Gly	Asp	
			200					205					210			
agt	ggt	gtg	tat	tac	tgc	tcc	gtg	gtc	tca	gcc	cag	gac	ctc	cag	ggg</	

215	220	225	
aac aat gag gcc tac gca gag ctc atc gtc ctt gac tgg ctc ttc gtg			835
Asn Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Asp Trp Leu Phe Val			
230	235	240	
gtt gtg gta tgc ctg gct gcc ttc ctc atc ttc ctc ctc ctg ggc aty			883
Val Val Val Cys Leu Ala Ala Phe Leu Ile Phe Leu Leu Leu Gly Ile			
245	250	255	260
tgc tgg tgc cag tgc tgc ccg cac act tgc tgc tgc tac gtc agg tgc			931
Cys Trp Cys Gln Cys Cys Pro His Thr Cys Cys Cys Tyr Val Arg Cys			
265	270	275	
ccc tgc tgc cca gac aag tgc tgc tgc ccc gag gcc ctg tat gcc gcc			979
Pro Cys Cys Pro Asp Lys Cys Cys Cys Pro Glu Ala Leu Tyr Ala Ala			
280	285	290	
ggc aaa gca gcc acc tca ggt gtt ccc agc att tat gcc ccc agc acc			1027
Gly Lys Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr Ala Pro Ser Thr			
295	300	305	
tat gcc cac ctg tct ccc gcc aag acc cca ccc cca cca gct atg att			1075
Tyr Ala His Leu Ser Pro Ala Lys Thr Pro Pro Pro Pro Ala Met Ile			
310	315	320	
ccc atg ggc cct gcc tac aac ggg tac cct gga gga tac cct gga gac			1123
Pro Met Gly Pro Ala Tyr Asn Gly Tyr Pro Gly Gly Tyr Pro Gly Asp			
325	330	335	340
gtt gac agg art agc tca gct ggt ggc caa ggc tcc tat gta ccc ctg			1171
Val Asp Arg Xaa Ser Ser Ala Gly Gly Gln Gly Ser Tyr Val Pro Leu			
345	350	355	
ctt cgg gac acg gac agc agt gtg gcc tct gaa gtc cgc agt ggc tac			1219
Leu Arg Asp Thr Asp Ser Ser Val Ala Ser Glu Val Arg Ser Gly Tyr			
360	365	370	
agg att cag gcc agc cag cag gac gac tcc atg cgg gtc ctg tac tac			1267
Arg Ile Gln Ala Ser Gln Gln Asp Asp Ser Met Arg Val Leu Tyr Tyr			
375	380	385	
atg gag aag gag ctg gcc aac ttc gac cct tct cga cst ggc ccc ccc			1315
Met Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser Arg Xaa Gly Pro Pro			
390	395	400	
agt ggc cgt gtg gag cgg gcc atg agt gaa gtc acc tcc ctc cac gag			1363
Ser Gly Arg Val Glu Arg Ala Met Ser Glu Val Thr Ser Leu His Glu			
405	410	415	420
gac gac tgg cga tct cgg cct tcc cgg ggc cct gcc ctc acc ccg atc			1411
Asp Asp Trp Arg Ser Arg Pro Ser Arg Gly Pro Ala Leu Thr Pro Ile			
425	430	435	
cgg gat gag gag tgg ggt ggc cac tcc ccc cgg agt ccc agg gga tgg			1459
Arg Asp Glu Glu Trp Gly Gly His Ser Pro Arg Ser Pro Arg Gly Trp			
440	445	450	
gac cag gag ccc gcc agg gag cag gca ggc ggg ggc tgg cgg gcc agg			1507
Asp Gln Glu Pro Ala Arg Glu Gln Ala Gly Gly Gly Trp Arg Ala Arg			
455	460	465	
cgg ccc cgg gcc cgc tcc gtg gac gcc ctg gac gac ctc acc ccg ccg			1555
Arg Pro Arg Ala Arg Ser Val Asp Ala Leu Asp Asp Leu Thr Pro Pro			
470	475	480	
agc acc gcc gag tca ggg agc agg tct ccc acg agt aat ggt ggg aga			1603
Ser Thr Ala Glu Ser Gly Ser Arg Ser Pro Thr Ser Asn Gly Gly Arg			
485	490	495	500
agc cgg gcc tac atg ccc ccg cgg agc cgc agc cgg gac gac ctc tat			1651
Ser Arg Ala Tyr Met Pro Pro Arg Ser Arg Ser Arg Asp Asp Leu Tyr			
505	510	515	
gac caa gac gac tcc agg gac ttc cca cgc tcc cgg gac ccc cac tac			1699
Asp Gln Asp Asp Ser Arg Asp Phe Pro Arg Ser Arg Asp Pro His Tyr			
520	525	530	
gac gac ttc agg tct cgg gag cgc cct cct gcc gac ccc agg tcc cac			1747



Asp Asp Phe Arg Ser Arg Glu Arg Pro Pro Ala Asp Pro Arg Ser His	
535 540 545	
cac cac cgt acc cgg gac cct cgg gac aac ggc tcc agg tcc ggg gac	1795
His His Arg Thr Arg Asp Pro Arg Asp Asn Gly Ser Arg Ser Gly Asp	
550 555 560	
ctc ccc tat gat ggg cgg cta ctg gag gag gct gtg agg aag aag ggg	1843
Leu Pro Tyr Asp Gly Arg Leu Leu Glu Glu Ala Val Arg Lys Lys Gly	
565 570 575 580	
tcg gag gag agg agg aga ccc cac aag gag gag gag gaa gag gcc tac	1891
Ser Glu Glu Arg Arg Arg Pro His Lys Glu Glu Glu Glu Glu Ala Tyr	
585 590 595	
tac ccg ccc gcg ccg ccc ccg tac tcg gag acc gac tcg cag gcg tcc	1939
Tyr Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr Asp Ser Gln Ala Ser	
600 605 610	
cga gag cgc agg ctc aag aag aac ttg gcc ctg agt cgg gaa agt tta	1987
Arg Glu Arg Arg Leu Lys Lys Asn Leu Ala Leu Ser Arg Glu Ser Leu	
615 620 625	
gtc gtc tga tctgacgttt tctacgtagc ttttgkattt ttttttttaa	2036
Val Val *	
630	
tttgaaggaa cactgatgaa gccctgccat acccctcccg agtctaataa aacgtataat	2096
cacaa	2101

<210> 5  
 <211> 630  
 <212> PRT  
 <213> Homo sapiens

<220>  
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 <222> 344  
 <223> 9-7-325 : polymorphic amino acid Ser or Asn

<220>  
 <221> VARIANT  
 <222> 401  
 <223> 9-9-246 : polymorphic amino acid Pro or Arg

<220>  
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 <222> 500  
 <223> LSRX9f13-BM : polymorphic amino acid deletion of Arg

<400> 5	
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Gly Arg Ser Val His Pro Ser Trp Pro Trp Cys Ala Pro Arg Pro Leu	
20 25 30	
Arg Tyr Phe Gly Arg Asp Ala Arg Ala Arg Ala Gln Thr Ala Ala	
35 40 45	
Met Ala Leu Leu Ala Gly Gly Leu Ser Arg Gly Leu Gly Ser His Pro	
50 55 60	
Ala Ala Ala Gly Arg Asp Ala Val Val Phe Val Trp Leu Leu Leu Ser	
65 70 75 80	
Thr Trp Cys Thr Ala Pro Ala Arg Ala Ile Gln Val Thr Val Ser Asn	
85 90 95	
Pro Tyr His Val Val Ile Leu Phe Gln Pro Val Thr Leu Pro Cys Thr	
100 105 110	
Tyr Gln Met Thr Ser Thr Pro Thr Gln Pro Ile Val Ile Trp Lys Tyr	

34

Glu Glu Ala Tyr Tyr Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr Asp  
595 600 605  
Ser Gln Ala Ser Arg Glu Arg Arg Leu Lys Lys Asn Leu Ala Leu Ser  
610 615 620  
Arg Glu Ser Leu Val Val  
625 630

<210> 6  
<211> 1954  
<212> DNA  
<213> Homo sapiens

<220>  
<221> allele  
<222> 595  
<223> 9-3-324 : polymorphic base C or T

<220>  
<221> allele  
<222> 987  
<223> 9-7-325 : polymorphic base A or G

<220>  
<221> allele  
<222> 1158  
<223> 9-9-246 : polymorphic base G or C

<220>  
<221> allele  
<222> 1454  
<223> LSRX9f13-BM : polymorphic base deletion of AGG

<220>  
<221> allele  
<222> 1875  
<223> LSRX9f14-BM : polymorphic base T or G

<400> 6  
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Met Gln Gln Asp  
1  
gga ctt gga gta ggg aca agg aac gga agt ggg aag ggg agg agc gtg 163  
Gly Leu Gly Val Gly Thr Arg Asn Gly Ser Gly Lys Gly Arg Ser Val  
5 10 15 20  
cac ccc tcc tgg cct tgg tgc gcg ccg cgc ccc cta agg tac ttt gga 211  
His Pro Ser Trp Pro Trp Cys Ala Pro Arg Pro Leu Arg Tyr Phe Gly  
25 30 35  
agg gac gcg cgg gcc aga cgc gcc cag acg gcc gcg atg gcg ctg ttg 259  
Arg Asp Ala Arg Ala Arg Arg Ala Gln Thr Ala Ala Met Ala Leu Leu  
40 45 50  
gcc ggc ggg ctc tcc aga ggg ctg ggc tcc cac ccg gcc gcc gca ggc 307  
Ala Gly Gly Leu Ser Arg Gly Leu Gly Ser His Pro Ala Ala Ala Gly  
55 60 65  
cgg gac gcg gtc gtc ttc gtg tgg ctt ctg ctt agc acc tgg tgc aca 355  
Arg Asp Ala Val Val Phe Val Trp Leu Leu Leu Ser Thr Trp Cys Thr  
70 75 80  
gct cct gcc agg gcc atc cag gtg acc gtg tcc aac ccc tac cac gtg 403  
Ala Pro Ala Arg Ala Ile Gln Val Thr Val Ser Asn Pro Tyr His Val

85		90		95		100	
gtg atc ctc ttc cag cct gtg acc ctg ccc tgt acc tac cag atg acc							451
Val Ile Leu Phe Gln Pro Val Thr Leu Pro Cys Thr Tyr Gln Met Thr							
	105		110		115		
tcg acc ccc acg caa ccc atc gtc atc tgg aag tac aag tct ttc tgc							499
Ser Thr Pro Thr Gln Pro Ile Val Ile Trp Lys Tyr Lys Ser Phe Cys							
	120		125		130		
cgg gac cgc atc gcc gat gcc ttc tcc ccg gcc agc gtc gac aac cag							547
Arg Asp Arg Ile Ala Asp Ala Phe Ser Pro Ala Ser Val Asp Asn Gln							
	135		140		145		
ctc aat gcc cag ctg gca gcc ggg aac cca ggc tac aac ccc tac gty							595
Leu Asn Ala Gln Leu Ala Ala Gly Asn Pro Gly Tyr Asn Pro Tyr Val							
	150		155		160		
gag tgc cag gac agc gtg cgc acc gtc agg gtc gtg gcc acc aag cag							643
Glu Cys Gln Asp Ser Val Arg Thr Val Arg Val Val Ala Thr Lys Gln							
	165		170		175		180
ggc aac gct gtg acc ctg gga gat tac tac cag ggc cgg agg att acc							691
Gly Asn Ala Val Thr Leu Gly Asp Tyr Tyr Gln Gly Arg Arg Ile Thr							
	185		190		195		
atc acc gga aat gct gac ctg acc ttt gac cag acg gcg tgg ggg gac							739
Ile Thr Gly Asn Ala Asp Leu Thr Phe Asp Gln Thr Ala Trp Gly Asp							
	200		205		210		
agt ggt gtg tat tac tgc tcc gtg gtc tca gcc cag gac ctc cag ggg							787
Ser Gly Val Tyr Tyr Cys Ser Val Val Ser Ala Gln Asp Leu Gln Gly							
	215		220		225		
aac aat gag gcc tac gca gag ctc atc gtc ctt gtg tat gcc gcc ggc							835
Asn Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Val Tyr Ala Ala Gly							
	230		235		240		
aaa gca gcc acc tca ggt gtt ccc agc att tat gcc ccc agc acc tat							883
Lys Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr Ala Pro Ser Thr Tyr							
	245		250		255		260
gcc cac ctg tct ccc gcc aag acc cca ccc cca cca gct atg att ccc							931
Ala His Leu Ser Pro Ala Lys Thr Pro Pro Pro Ala Met Ile Pro							
	265		270		275		
atg ggc cct gcc tac aac ggg tac cct gga gga tac cct gga gac gtt							979
Met Gly Pro Ala Tyr Asn Gly Tyr Pro Gly Gly Tyr Pro Gly Asp Val							
	280		285		290		
gac agg art agc tca gct ggt ggc caa ggc tcc tat gta ccc ctg ctt							1027
Asp Arg Xaa Ser Ser Ala Gly Gly Gln Gly Ser Tyr Val Pro Leu Leu							
	295		300		305		
cgg gac acg gac agc agt gtg gcc tct gaa gtc cgc agt ggc tac agg							1075
Arg Asp Thr Asp Ser Ser Val Ala Ser Glu Val Arg Ser Gly Tyr Arg							
	310		315		320		
att cag gcc agc cag cag gac gac tcc atg cgg gtc ctg tac tac atg							1123
Ile Gln Ala Ser Gln Gln Asp Asp Ser Met Arg Val Leu Tyr Tyr Met							
	325		330		335		340
gag aag gag ctg gcc aac ttc gac cct tct cga cst ggc ccc ccc agt							1171
Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser Arg Xaa Gly Pro Pro Ser							
	345		350		355		
ggc cgt gtg gag cgg gcc atg agt gaa gtc acc tcc ctc cac gag gac							1219
Gly Arg Val Glu Arg Ala Met Ser Glu Val Thr Ser Leu His Glu Asp							
	360		365		370		
gac tgg cga tct cgg cct tcc cgg ggc cct gcc ctc acc ccg atc cgg							1267
Asp Trp Arg Ser Arg Pro Ser Arg Gly Pro Ala Leu Thr Pro Ile Arg							
	375		380		385		
gat gag gag tgg ggt ggc cac tcc ccc cgg agt ccc agg gga tgg gac							1315
Asp Glu Glu Trp Gly Gly His Ser Pro Arg Ser Pro Arg Gly Trp Asp							
	390		395		400		
cag gag ccc gcc agg gag cag gca ggc ggg ggc tgg cgg gcc agg cgg							1363

Gln Glu Pro Ala Arg	Glu Gln Ala Gly Gly Gly Trp Arg Ala Arg Arg	
405	410	415 420
ccc cgg gcc cgc tcc gtg gac gcc ctg gac gac ctc acc ccg ccg agc		1411
Pro Arg Ala Arg Ser Val Asp Ala Leu Asp Asp Leu Thr Pro Pro Ser		
	425 430 435	
acc gcc gag tca ggg agc agg tct ccc acg agt aat ggt ggg aga agc		1459
Thr Ala Glu Ser Gly Ser Arg Ser Pro Thr Ser Asn Gly Gly Arg Ser		
	440 445 450	
cgg gcc tac atg ccc ccg cgg agc cgc agc cgg gac gac ctc tat gac		1507
Arg Ala Tyr Met Pro Pro Arg Ser Arg Ser Arg Asp Asp Leu Tyr Asp		
	455 460 465	
caa gac gac tgc agg gac ttc cca cgc tcc cgg gac ccc cac tac gac		1555
Gln Asp Asp Ser Arg Asp Phe Pro Arg Ser Arg Asp Pro His Tyr Asp		
	470 475 480	
gac ttc agg tct cgg gag cgc cct cct gcc gac ccc agg tcc cac cac		1603
Asp Phe Arg Ser Arg Glu Arg Pro Pro Ala Asp Pro Arg Ser His His		
	485 490 495 500	
cac cgt acc cgg gac cct cgg gac aac ggc tcc agg tcc ggg gac ctc		1651
His Arg Thr Arg Asp Pro Arg Asp Asn Gly Ser Arg Ser Gly Asp Leu		
	505 510 515	
ccc tat gat ggg cgg cta ctg gag gag gct gtg agg aag aag ggg tcg		1699
Pro Tyr Asp Gly Arg Leu Leu Glu Glu Ala Val Arg Lys Lys Gly Ser		
	520 525 530	
gag gag agg agg aga ccc cac aag gag gag gag gaa gag gcc tac tac		1747
Glu Glu Arg Arg Arg Pro His Lys Glu Glu Glu Glu Glu Ala Tyr Tyr		
	535 540 545	
ccg ccc gcg ccg ccc ccg tac tcg gag acc gac tcg cag gcg tcc cga		1795
Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr Asp Ser Gln Ala Ser Arg		
	550 555 560	
gag cgc agg ctc aag aag aac ttg gcc ctg agt cgg gaa agt tta gtc		1843
Glu Arg Arg Leu Lys Lys Asn Leu Ala Leu Ser Arg Glu Ser Leu Val		
	565 570 575 580	
gtc tga tctgacgttt tctacgtagc ttttgkatTT ttttttttaa tttgaaggaa		1899
Val *		
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<210> 7

<211> 581

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> 295

<223> 9-7-325 : polymorphic amino acid Ser or Asn

<220>

<221> VARIANT

<222> 352

<223> 9-9-246 : polymorphic amino acid Pro or Arg

<220>

<221> VARIANT

<222> 451

<223> LSRX9f13-BM : polymorphic amino acid deletion of Arg

<400> 7

Met	Gln	Gln	Asp	Gly	Leu	Gly	Val	Gly	Thr	Arg	Asn	Gly	Ser	Gly	Lys
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	485		490		495										
Arg	Ser	His	His	His	Arg	Thr	Arg	Asp	Pro	Arg	Asp	Asn	Gly	Ser	Arg
		500						505					510		
Ser	Gly	Asp	Leu	Pro	Tyr	Asp	Gly	Arg	Leu	Leu	Glu	Glu	Ala	Val	Arg
		515						520					525		
Lys	Lys	Gly	Ser	Glu	Glu	Arg	Arg	Arg	Pro	His	Lys	Glu	Glu	Glu	Glu
		530					535				540				
Glu	Ala	Tyr	Tyr	Pro	Pro	Ala	Pro	Pro	Pro	Tyr	Ser	Glu	Thr	Asp	Ser
		545			550					555					560
Gln	Ala	Ser	Arg	Glu	Arg	Arg	Leu	Lys	Lys	Asn	Leu	Ala	Leu	Ser	Arg
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Glu	Ser	Leu	Val	Val											
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<210> 8

<211> 2097

<212> DNA

<213> Rattus norvegicus

<400> 8

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agcacgcacc	cttctccgcc	ttggttctcg	ccgcgcccc	tactctcggg	atacttggga		180
ggggacgcgc	gggcaccgtc	gctgctagac	ggccgcg	atg gcg ccg gcg gcc ggc			235
			Met	Ala	Pro	Ala	Gly
			1			5	
gcg tgt gct ggg gcg cct gac tcc cac cca gct acc gtg gtc ttc gtg							283
Ala Cys Ala Gly Ala Pro Asp Ser His Pro Ala Thr Val Val Phe Val							
	10		15		20		
tgt ctc ttt ctc atc att ttc tgc cca gac cct gcc agt gcc atc cag							331
Cys Leu Phe Leu Ile Ile Phe Cys Pro Asp Pro Ala Ser Ala Ile Gln							
	25		30		35		
gtg act gtg tct gac ccc tac cac gta gtg atc ctg ttc cag cca gtg							379
Val Thr Val Ser Asp Pro Tyr His Val Val Ile Leu Phe Gln Pro Val							
	40		45		50		
acc ctg ccc tgc acc tat cag atg agc aac act ctc aca gtc ccc atc							427
Thr Leu Pro Cys Thr Tyr Gln Met Ser Asn Thr Leu Thr Val Pro Ile							
	55		60		65		70
gtg atc tgg aag tac aag tca ttc tgc cgg gac cgt att gcc gat gcc							475
Val Ile Trp Lys Tyr Lys Ser Phe Cys Arg Asp Arg Ile Ala Asp Ala							
	75		80		85		
ttc tct cct gcc agt gtg gac aac cag cta aat gcc cag ttg gca gct							523
Phe Ser Pro Ala Ser Val Asp Asn Gln Leu Asn Ala Gln Leu Ala Ala							
	90		95		100		
ggc aac ccc ggc tac aac ccc tat gtg gag tgc cag gac agt gta cgc							571
Gly Asn Pro Gly Tyr Asn Pro Tyr Val Glu Cys Gln Asp Ser Val Arg							
	105		110		115		
act gtc agg gtg gtg gcc acc aaa cag ggc aat gcg gtg acc ctg gga							619
Thr Val Arg Val Val Ala Thr Lys Gln Gly Asn Ala Val Thr Leu Gly							
	120		125		130		
gac tac tac caa ggc agg agg atc acc ata aca gga aat gct gac ctg							667
Asp Tyr Tyr Gln Gly Arg Arg Ile Thr Ile Thr Gly Asn Ala Asp Leu							
	135		140		145		150
acc ttc gag cag aca gcc tgg gga gac agt gga gtg tat tac tgc tct							715
Thr Phe Glu Gln Thr Ala Trp Gly Asp Ser Gly Val Tyr Tyr Cys Ser							
	155		160		165		
gtg gtc teg gcc caa gat ctg gat gga aac aac gag gcg tac gca gag							763
Val Val Ser Ala Gln Asp Leu Asp Gly Asn Asn Glu Ala Tyr Ala Glu							
	170		175		180		

ctc atc gtc ctt ggc agg acc tca gag gcc cct gag ctc cta cct ggt	811
Leu Ile Val Leu Gly Arg Thr Ser Glu Ala Pro Glu Leu Leu Pro Gly	
185 190 195	
ttt cgg gcg ggg ccc ttg gaa gat tgg ctc ttt gtg gtc gtg gtc tgc	859
Phe Arg Ala Gly Pro Leu Glu Asp Trp Leu Phe Val Val Val Cys	
200 205 210	
ctg gcg agc ctc ctc ctc ttc ctc ctc ctg gcc atc tgc tgg tgc cag	907
Leu Ala Ser Leu Leu Leu Phe Leu Leu Leu Gly Ile Cys Trp Cys Gln	
215 220 225 230	
tgc tgt cct cac acc tgc tgc tgc tat gtc cga tgt ccc tgc tgc cca	955
Cys Cys Pro His Thr Cys Cys Cys Tyr Val Arg Cys Pro Cys Cys Pro	
235 240 245	
gac aag tgc tgt tgc cct gag gct ctt tat gct gct gcc aaa gca gcc	1003
Asp Lys Cys Cys Cys Pro Glu Ala Leu Tyr Ala Ala Gly Lys Ala Ala	
250 255 260	
acc tca ggt gtc ccg agc atc tat gcc ccc agc atc tat acc cac ctc	1051
Thr Ser Gly Val Pro Ser Ile Tyr Ala Pro Ser Ile Tyr Thr His Leu	
265 270 275	
tca cct gcc aag acc cca cca cct ccg cct gcc atg att ccc atg gcc	1099
Ser Pro Ala Lys Thr Pro Pro Pro Pro Pro Ala Met Ile Pro Met Gly	
280 285 290	
cct ccc tat ggg tac cct gga gac ttt gac aga cat agc tca gtt ggt	1147
Pro Pro Tyr Gly Tyr Pro Gly Asp Phe Asp Arg His Ser Ser Val Gly	
295 300 305 310	
ggc cac agc tcc caa gta ccc ctg ctg cgt gac gtg gat gcc agt gta	1195
Gly His Ser Ser Gln Val Pro Leu Leu Arg Asp Val Asp Gly Ser Val	
315 320 325	
tct tca gaa gta cga agt gcc tac agg atc cag gct aac cag caa gat	1243
Ser Ser Glu Val Arg Ser Gly Tyr Arg Ile Gln Ala Asn Gln Gln Asp	
330 335 340	
gac tcc atg agg gtc cta tac tat atg gag aaa gag cta gcc aac ttt	1291
Asp Ser Met Arg Val Leu Tyr Tyr Met Glu Lys Glu Leu Ala Asn Phe	
345 350 355	
gac cct tcc cga cct gcc cct ccc aat gcc aga gtg gaa cgg gcc atg	1339
Asp Pro Ser Arg Pro Gly Pro Pro Asn Gly Arg Val Glu Arg Ala Met	
360 365 370	
agt gaa gta acc tcc ctc cat gaa gat gac tgg cga tcg agg cct tcc	1387
Ser Glu Val Thr Ser Leu His Glu Asp Asp Trp Arg Ser Arg Pro Ser	
375 380 385 390	
agg gct cct gcc ctc acc ccc atc agg gat gag gag tgg aat cgc cac	1435
Arg Ala Pro Ala Leu Thr Pro Ile Arg Asp Glu Glu Trp Asn Arg His	
395 400 405	
tcc cca cag agt ccc aga aca tgg gag cag gaa ccc ctt caa gaa caa	1483
Ser Pro Gln Ser Pro Arg Thr Trp Glu Gln Glu Pro Leu Gln Glu Gln	
410 415 420	
cca agg ggt ggt tgg ggg tct gga cgc cct cgg gcc cgc tct gtg gat	1531
Pro Arg Gly Gly Trp Gly Ser Gly Arg Pro Arg Ala Arg Ser Val Asp	
425 430 435	
gct cta gat gat atc aac cgg cct gcc tcc act gaa tca gga cgg tct	1579
Ala Leu Asp Asp Ile Asn Arg Pro Gly Ser Thr Glu Ser Gly Arg Ser	
440 445 450	
tct ccc cca agt agt gga cgg aga gga cgg gcc tat gca cct cca aga	1627
Ser Pro Pro Ser Ser Gly Arg Arg Gly Arg Ala Tyr Ala Pro Pro Arg	
455 460 465 470	
agt cgc agc cgg gat gac ctc tat gac ccg gac gat cct agg gac ttg	1675
Ser Arg Ser Arg Asp Asp Leu Tyr Asp Pro Asp Asp Pro Arg Asp Leu	
475 480 485	
cca cat tcc cga gat ccc cac tat tat gac gac atc agg tct aga gat	1723
Pro His Ser Arg Asp Pro His Tyr Tyr Asp Asp Ile Arg Ser Arg Asp	



	490		495		500	
cca cgt gct gac ccc aga tcc cgt cag cga tcc cga gat cct cgg gat						1771
Pro Arg Ala Asp Pro Arg Ser Arg Gln Arg Ser Arg Asp Pro Arg Asp						
	505		510		515	
gct ggc ttc agg tca agg gac cct cag tat gat ggg cga cta tta gaa						1819
Ala Gly Phe Arg Ser Arg Asp Pro Gln Tyr Asp Gly Arg Leu Leu Glu						
	520		525		530	
gag gct tta aag aaa aag ggg tcg ggc gag aga agg agg gtt tac agg						1867
Glu Ala Leu Lys Lys Lys Gly Ser Gly Glu Arg Arg Arg Val Tyr Arg						
	535		540		545	550
gag gaa gaa gag gaa gag gag ggc caa tac ccc cca gca cct cca cct						1915
Glu Glu Glu Glu Glu Glu Glu Gly Gln Tyr Pro Pro Ala Pro Pro Pro						
	555		560		565	
tac tca gag act gac tcg cag gcc tca cgg gag agg agg ctg aaa aag						1963
Tyr Ser Glu Thr Asp Ser Gln Ala Ser Arg Glu Arg Arg Leu Lys Lys						
	570		575		580	
aat ttg gcc ctg agt cgg gaa agt tta gtc gtc tga tccacgtttt						2009
Asn Leu Ala Leu Ser Arg Glu Ser Leu Val Val *						
	585		590			
gtatgtagct tttgtacttt ttttttaatt ggaatcaata ttgatgaaac ttcaagccta						2069
ataaaatgtc taatcacaaa aaaaaaaa						2097

<210> 9  
 <211> 593  
 <212> PRT  
 <213> Rattus norvegicus

<400> 9  
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 35 40 45  
 Ile Leu Phe Gln Pro Val Thr Leu Pro Cys Thr Tyr Gln Met Ser Asn  
 50 55 60  
 Thr Leu Thr Val Pro Ile Val Ile Trp Lys Tyr Lys Ser Phe Cys Arg  
 65 70 75 80  
 Asp Arg Ile Ala Asp Ala Phe Ser Pro Ala Ser Val Asp Asn Gln Leu  
 85 90 95  
 Asn Ala Gln Leu Ala Ala Gly Asn Pro Gly Tyr Asn Pro Tyr Val Glu  
 100 105 110  
 Cys Gln Asp Ser Val Arg Thr Val Arg Val Val Ala Thr Lys Gln Gly  
 115 120 125  
 Asn Ala Val Thr Leu Gly Asp Tyr Tyr Gln Gly Arg Arg Ile Thr Ile  
 130 135 140  
 Thr Gly Asn Ala Asp Leu Thr Phe Glu Gln Thr Ala Trp Gly Asp Ser  
 145 150 155 160  
 Gly Val Tyr Tyr Cys Ser Val Val Ser Ala Gln Asp Leu Asp Gly Asn  
 165 170 175  
 Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Gly Arg Thr Ser Glu Ala  
 180 185 190  
 Pro Glu Leu Leu Pro Gly Phe Arg Ala Gly Pro Leu Glu Asp Trp Leu  
 195 200 205  
 Phe Val Val Val Val Cys Leu Ala Ser Leu Leu Leu Phe Leu Leu Leu  
 210 215 220  
 Gly Ile Cys Trp Cys Gln Cys Cys Pro His Thr Cys Cys Cys Tyr Val  
 225 230 235 240  
 Arg Cys Pro Cys Cys Pro Asp Lys Cys Cys Cys Pro Glu Ala Leu Tyr



		10		15		20		
tgt	ctc	ttt	ctc	atc	att	ttc	tgc	cca gac cct gcc agt gcc atc cag
Cys	Leu	Phe	Leu	Ile	Ile	Phe	Cys	Pro Asp Pro Ala Ser Ala Ile Gln
		25				30		35
gtg	act	gtg	tct	gac	ccc	tac	cac	gta gtg atc ctg ttc cag cca gtg
Val	Thr	Val	Ser	Asp	Pro	Tyr	His	Val Val Ile Leu Phe Gln Pro Val
		40				45		50
acc	ctg	ccc	tgc	acc	tat	cag	atg	agc aac act ctc aca gtc ccc atc
Thr	Leu	Pro	Cys	Thr	Tyr	Gln	Met	Ser Asn Thr Leu Thr Val Pro Ile
		55				60		65
gtg	atc	tgg	aag	tac	aag	tca	ttc	tgc cgg gac cgt att gcc gat gcc
Val	Ile	Trp	Lys	Tyr	Lys	Ser	Phe	Cys Arg Asp Arg Ile Ala Asp Ala
			75					80
ttc	tct	cct	gcc	agt	gtg	gac	aac	cag cta aat gcc cag ttg gca gct
Phe	Ser	Pro	Ala	Ser	Val	Asp	Asn	Gln Leu Asn Ala Gln Leu Ala Ala
		90						95
ggc	aac	ccc	ggc	tac	aac	ccc	tat	gtg gag tgc cag gac agt gta cgc
Gly	Asn	Pro	Gly	Tyr	Asn	Pro	Tyr	Val Glu Cys Gln Asp Ser Val Arg
		105						110
act	gtc	agg	gtg	gtg	gcc	acc	aaa	cag ggc aat gcg gtg acc ctg gga
Thr	Val	Arg	Val	Val	Ala	Thr	Lys	Gln Gly Asn Ala Val Thr Leu Gly
		120						125
gac	tac	tac	caa	ggc	agg	agg	atc	acc ata aca gga aat gct gac ctg
Asp	Tyr	Tyr	Gln	Gly	Arg	Arg	Ile	Thr Ile Thr Gly Asn Ala Asp Leu
		135						140
acc	ttc	gag	cag	aca	gcc	tgg	gga	gac agt gga gtg tat tac tgc tct
Thr	Phe	Glu	Gln	Thr	Ala	Trp	Gly	Asp Ser Gly Val Tyr Tyr Cys Ser
				155				160
gtg	gtc	tcg	gcc	caa	gat	ctg	gat	gga aac aac gag gcg tac gca gag
Val	Val	Ser	Ala	Gln	Asp	Leu	Asp	Gly Asn Asn Glu Ala Tyr Ala Glu
			170					175
ctc	atc	gtc	ctt	gat	tgg	ctc	ttt	gtg gtc gtg gtc tgc ctg gcg agc
Leu	Ile	Val	Leu	Asp	Trp	Leu	Phe	Val Val Val Val Cys Leu Ala Ser
		185						190
ctc	ctc	ctc	ttc	ctc	ctc	ctg	ggc	atc tgc tgg tgc cag tgc tgt cct
Leu	Leu	Leu	Phe	Leu	Leu	Leu	Gly	Ile Cys Trp Cys Gln Cys Cys Pro
		200						205
cac	acc	tgc	tgc	tgc	tat	gtc	cga	tgt ccc tgc tgc cca gac aag tgc
His	Thr	Cys	Cys	Cys	Tyr	Val	Arg	Cys Pro Cys Cys Pro Asp Lys Cys
		215						220
tgt	tgc	cct	gag	gct	ctt	tat	gct	gct ggc aaa gca gcc acc tca ggt
Cys	Cys	Pro	Glu	Ala	Leu	Tyr	Ala	Ala Gly Lys Ala Ala Thr Ser Gly
				235				240
gtc	ccg	agc	atc	tat	gcc	ccc	agc	atc tat acc cac ctc tca cct gcc
Val	Pro	Ser	Ile	Tyr	Ala	Pro	Ser	Ile Tyr Thr His Leu Ser Pro Ala
			250					255
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Lys	Thr	Pro	Pro	Pro	Pro	Pro	Ala	Met Ile Pro Met Gly Pro Pro Tyr
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ggg	tac	cct	gga	gac	ttt	gac	aga	cat agc tca gtt ggt ggc cac agc
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		280						285
tcc	caa	gta	ccc	ctg	ctg	cgt	gac	gtg gat ggc agt gta tct tca gaa
Ser	Gln	Val	Pro	Leu	Leu	Arg	Asp	Val Asp Gly Ser Val Ser Ser Glu
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gta	cga	agt	ggc	tac	agg	atc	cag	gct aac cag caa gat gac tcc atg
Val	Arg	Ser	Gly	Tyr	Arg	Ile	Gln	Ala Asn Gln Gln Asp Asp Ser Met
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agg	gtc	cta	tac	tat	atg	gag	aaa	gag cta gcc aac ttt gac cct tcc
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Arg Val Leu Tyr Tyr Met Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser	
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Arg Pro Gly Pro Pro Asn Gly Arg Val Glu Arg Ala Met Ser Glu Val	
345 350 355	
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Thr Ser Leu His Glu Asp Asp Trp Arg Ser Arg Pro Ser Arg Ala Pro	
360 365 370	
gcc ctc acc ccc atc agg gat gag gag tgg aat cgc cac tcc cca cag	1387
Ala Leu Thr Pro Ile Arg Asp Glu Glu Trp Asn Arg His Ser Pro Gln	
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Ser Pro Arg Thr Trp Glu Gln Glu Pro Leu Gln Glu Gln Pro Arg Gly	
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Gly Trp Gly Ser Gly Arg Pro Arg Ala Arg Ser Val Asp Ala Leu Asp	
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Asp Ile Asn Arg Pro Gly Ser Thr Glu Ser Gly Arg Ser Ser Pro Pro	
425 430 435	
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Ser Ser Gly Arg Arg Gly Arg Ala Tyr Ala Pro Pro Arg Ser Arg Ser	
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Arg Asp Asp Leu Tyr Asp Pro Asp Asp Pro Arg Asp Leu Pro His Ser	
455 460 465 470	
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Arg Asp Pro His Tyr Tyr Asp Asp Ile Arg Ser Arg Asp Pro Arg Ala	
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Asp Pro Arg Ser Arg Gln Arg Ser Arg Asp Pro Arg Asp Ala Gly Phe	
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Arg Ser Arg Asp Pro Gln Tyr Asp Gly Arg Leu Leu Glu Glu Ala Leu	
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Lys Lys Lys Gly Ser Gly Glu Arg Arg Arg Val Tyr Arg Glu Glu Glu	
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Thr Asp Ser Gln Ala Ser Arg Glu Arg Arg Leu Lys Lys Asn Leu Ala	
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Leu Ser Arg Glu Ser Leu Val Val *	
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<210> 11

<211> 574

<212> PRT

<213> Rattus norvegicus

<400> 11

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Asp	Arg	Ile	Ala	Asp	Ala	Phe	Ser	Pro	Ala	Ser	Val	Asp	Asn	Gln	Leu
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Asn	Ala	Gln	Leu	Ala	Ala	Gly	Asn	Pro	Gly	Tyr	Asn	Pro	Tyr	Val	Glu
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Cys	Gln	Asp	Ser	Val	Arg	Thr	Val	Arg	Val	Val	Ala	Thr	Lys	Gln	Gly
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Gly	Val	Tyr	Tyr	Cys	Ser	Val	Val	Ser	Ala	Gln	Asp	Leu	Asp	Gly	Asn
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Asn	Glu	Ala	Tyr	Ala	Glu	Leu	Ile	Val	Leu	Asp	Trp	Leu	Phe	Val	Val
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Val	Val	Cys	Leu	Ala	Ser	Leu	Leu	Leu	Phe	Leu	Leu	Leu	Gly	Ile	Cys
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Trp	Cys	Gln	Cys	Cys	Pro	His	Thr	Cys	Cys	Cys	Tyr	Val	Arg	Cys	Pro
	210					215					220				
Cys	Cys	Pro	Asp	Lys	Cys	Cys	Cys	Pro	Glu	Ala	Leu	Tyr	Ala	Ala	Gly
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Lys	Ala	Ala	Thr	Ser	Gly	Val	Pro	Ser	Ile	Tyr	Ala	Pro	Ser	Ile	Tyr
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Thr	His	Leu	Ser	Pro	Ala	Lys	Thr	Pro	Pro	Pro	Pro	Pro	Ala	Met	Ile
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Pro	Met	Gly	Pro	Pro	Tyr	Gly	Tyr	Pro	Gly	Asp	Phe	Asp	Arg	His	Ser
		275					280					285			
Ser	Val	Gly	Gly	His	Ser	Ser	Gln	Val	Pro	Leu	Leu	Arg	Asp	Val	Asp
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Gln	Gln	Asp	Asp	Ser	Met	Arg	Val	Leu	Tyr	Tyr	Met	Glu	Lys	Glu	Leu
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Ala	Asn	Phe	Asp	Pro	Ser	Arg	Pro	Gly	Pro	Pro	Asn	Gly	Arg	Val	Glu
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Arg	Ala	Met	Ser	Glu	Val	Thr	Ser	Leu	His	Glu	Asp	Asp	Trp	Arg	Ser
		355					360								

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515 520 525  
Val Tyr Arg Glu Glu Glu Glu Glu Glu Gly Gln Tyr Pro Pro Ala  
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Pro Pro Pro Tyr Ser Glu Thr Asp Ser Gln Ala Ser Arg Glu Arg Arg  
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<212> DNA  
<213> Rattus norvegicus

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Ala Cys Ala Gly Ala Pro Asp Ser His Pro Ala Thr Val Val Phe Val  
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tgt ctc ttt ctc atc att ttc tgc cca gac cct gcc agt gcc atc cag 331  
Cys Leu Phe Leu Ile Ile Phe Cys Pro Asp Pro Ala Ser Ala Ile Gln  
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Val Thr Val Ser Asp Pro Tyr His Val Val Ile Leu Phe Gln Pro Val  
40 45 50  
acc ctg ccc tgc acc tat cag atg agc aac act ctc aca gtc ccc atc 427  
Thr Leu Pro Cys Thr Tyr Gln Met Ser Asn Thr Leu Thr Val Pro Ile  
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Val Ile Trp Lys Tyr Lys Ser Phe Cys Arg Asp Arg Ile Ala Asp Ala  
75 80 85  
ttc tct cct gcc agt gtg gac aac cag cta aat gcc cag ttg gca gct 523  
Phe Ser Pro Ala Ser Val Asp Asn Gln Leu Asn Ala Gln Leu Ala Ala  
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Gly Asn Pro Gly Tyr Asn Pro Tyr Val Glu Cys Gln Asp Ser Val Arg  
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Thr Val Arg Val Val Ala Thr Lys Gln Gly Asn Ala Val Thr Leu Gly  
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gac tac tac caa ggc agg agg atc acc ata aca gga aat gct gac ctg 667  
Asp Tyr Tyr Gln Gly Arg Arg Ile Thr Ile Thr Gly Asn Ala Asp Leu  
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Val Val Ser Ala Gln Asp Leu Asp Gly Asn Asn Glu Ala Tyr Ala Glu  
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Leu Ile Val Leu Val Tyr Ala Ala Gly Lys Ala Ala Thr Ser Gly Val  
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ccg agc atc tat gcc ccc agc atc tat acc cac ctc tca cct gcc aag	859
Pro Ser Ile Tyr Ala Pro Ser Ile Tyr Thr His Leu Ser Pro Ala Lys	
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acc cca cca cct ccg cct gcc atg att ccc atg ggc cct ccc tat ggg	907
Thr Pro Pro Pro Pro Ala Met Ile Pro Met Gly Pro Pro Tyr Gly	
215 220 225 230	
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Tyr Pro Gly Asp Phe Asp Arg His Ser Ser Val Gly Gly His Ser Ser	
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Gln Val Pro Leu Leu Arg Asp Val Asp Gly Ser Val Ser Ser Glu Val	
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Arg Ser Gly Tyr Arg Ile Gln Ala Asn Gln Gln Asp Asp Ser Met Arg	
265 270 275	
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Val Leu Tyr Tyr Met Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser Arg	
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Pro Gly Pro Pro Asn Gly Arg Val Glu Arg Ala Met Ser Glu Val Thr	
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Ser Leu His Glu Asp Trp Arg Ser Arg Pro Ser Arg Ala Pro Ala	
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Leu Thr Pro Ile Arg Asp Glu Glu Trp Asn Arg His Ser Pro Gln Ser	
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ccc aga aca tgg gag cag gaa ccc ctt caa gaa caa cca agg ggt ggt	1291
Pro Arg Thr Trp Glu Gln Glu Pro Leu Gln Glu Gln Pro Arg Gly Gly	
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Trp Gly Ser Gly Arg Pro Arg Ala Arg Ser Val Asp Ala Leu Asp Asp	
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Ile Asn Arg Pro Gly Ser Thr Glu Ser Gly Arg Ser Ser Pro Pro Ser	
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Ser Gly Arg Arg Gly Arg Ala Tyr Ala Pro Pro Arg Ser Arg Ser Arg	
395 400 405	
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Asp Pro His Tyr Tyr Asp Asp Ile Arg Ser Arg Asp Pro Arg Ala Asp	
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Pro Arg Ser Arg Gln Arg Ser Arg Asp Pro Arg Asp Ala Gly Phe Arg	
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Ser Arg Asp Pro Gln Tyr Asp Gly Arg Leu Leu Glu Glu Ala Leu Lys	
455 460 465 470	
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Lys Lys Gly Ser Gly Glu Arg Arg Arg Val Tyr Arg Glu Glu Glu Glu	
475 480 485	
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Glu Glu Glu Gly Gln Tyr Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr	
490 495 500	
gac tcg cag gcc tca cgg gag agg agg ctg aaa aag aat ttg gcc ctg	1771
Asp Ser Gln Ala Ser Arg Glu Arg Arg Leu Lys Lys Asn Leu Ala Leu	





Val Asp Ala Leu Asp Asp Ile Asn Arg Pro Gly Ser Thr Glu Ser Gly  
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 Arg Ser Ser Pro Pro Ser Ser Gly Arg Arg Gly Arg Ala Tyr Ala Pro  
 385 390 395 400  
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 405 410 415  
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 Arg Asp Pro Arg Ala Asp Pro Arg Ser Arg Gln Arg Ser Arg Asp Pro  
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 Tyr Arg Glu Glu Glu Glu Glu Glu Gly Gln Tyr Pro Pro Ala Pro  
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<211> 1886

<212> DNA

<213> Mus musculus

<400> 14

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Gly Ala Pro Gly Ser His Pro Ala Thr Thr Ile Phe Val Cys Leu Phe		
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ctc atc att tac tgc cca gac cgt gcc agt gcc atc cag gtg acc gtg		148
Leu Ile Ile Tyr Cys Pro Asp Arg Ala Ser Ala Ile Gln Val Thr Val		
	30 35 40	
cct gac ccc tac cac gta gtg atc ctg ttc cag cca gtg aca cta cac		196
Pro Asp Pro Tyr His Val Val Ile Leu Phe Gln Pro Val Thr Leu His		
	45 50 55	
tgc acc tac cag atg agc aat acc ctc aca gcc cct atc gtg atc tgg		244
Cys Thr Tyr Gln Met Ser Asn Thr Leu Thr Ala Pro Ile Val Ile Trp		
	60 65 70	
aag tat aag tcg ttc tgt cgg gac cgt gtt gcc gac gcc ttc tcc cct		292
Lys Tyr Lys Ser Phe Cys Arg Asp Arg Val Ala Asp Ala Phe Ser Pro		
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Ala Ser Val Asp Asn Gln Leu Asn Ala Gln Leu Ala Ala Gly Asn Pro		
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ggc tac aac ccc tat gtg gag tgc cag gac agc gta cgc act gtc agg		388
Gly Tyr Asn Pro Tyr Val Glu Cys Gln Asp Ser Val Arg Thr Val Arg		
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Val Val Ala Thr Lys Gln Gly Asn Ala Val Thr Leu Gly Asp Tyr Tyr		
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cag ggc agg aga atc acc atc aca gga aat gct ggc ctg acc ttc gag		484
Gln Gly Arg Arg Ile Thr Ile Thr Gly Asn Ala Gly Leu Thr Phe Glu		
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cag acg gcc tgg gga gac agt gga gtg tat tac tgc tcc gtg gtc tca		532
Gln Thr Ala Trp Gly Asp Ser Gly Val Tyr Tyr Cys Ser Val Val Ser		

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Ala Gln Asp Leu Asp Gly Asn Asn Glu Ala Tyr Ala Glu Leu Ile Val			
170	175	180	185
ctt ggc agg acc tca gaa gcc cct gag ctc cta cct ggt ttt cgg gcg			628
Leu Gly Arg Thr Ser Glu Ala Pro Glu Leu Leu Pro Gly Phe Arg Ala			
190	195	200	
ggg ccc ttg gaa gat tgg ctc ttt gtg gtc gtg gtc tgc ctg gca agc			676
Gly Pro Leu Glu Asp Trp Leu Phe Val Val Val Val Cys Leu Ala Ser			
205	210	215	
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Leu Leu Phe Phe Leu Leu Leu Gly Ile Cys Trp Cys Gln Cys Cys Pro			
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cac acc tgc tgc tgc tat gtc aga tgt ccc tgc tgc cca gac aag tgc			772
His Thr Cys Cys Cys Tyr Val Arg Cys Pro Cys Cys Pro Asp Lys Cys			
235	240	245	
tgt tgc cct gag gcc ctt tat gct gct ggc aaa gca gcc acc tca ggt			820
Cys Cys Pro Glu Ala Leu Tyr Ala Ala Gly Lys Ala Ala Thr Ser Gly			
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Val Pro Ser Ile Tyr Ala Pro Ser Ile Tyr Thr His Leu Ser Pro Ala			
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Lys Thr Pro Pro Pro Pro Ala Met Ile Pro Met Arg Pro Pro Tyr			
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Gly Tyr Pro Gly Asp Phe Asp Arg Thr Ser Ser Val Gly Gly His Ser			
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Ser Gln Val Pro Leu Leu Arg Glu Val Asp Gly Ser Val Ser Ser Glu			
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gta cga agt ggc tac agg atc cag gct aac cag caa gat gac tcc atg			1060
Val Arg Ser Gly Tyr Arg Ile Gln Ala Asn Gln Gln Asp Asp Ser Met			
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Arg Val Leu Tyr Tyr Met Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser			
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Arg Pro Gly Pro Pro Asn Gly Arg Val Glu Arg Ala Met Ser Glu Val			
365	370	375	
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Thr Ser Leu His Glu Asp Asp Trp Arg Ser Arg Pro Ser Arg Ala Pro			
380	385	390	
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Ala Leu Thr Pro Ile Arg Asp Glu Glu Trp Asn Arg His Ser Pro Arg			
395	400	405	
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Ser Pro Arg Thr Trp Glu Gln Glu Pro Leu Gln Glu Gln Pro Arg Gly			
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Gly Trp Gly Ser Gly Arg Pro Arg Ala Arg Ser Val Asp Ala Leu Asp			
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Ser Ser Gly Arg Arg Gly Arg Ala Tyr Ala Pro Pro Arg Ser Arg Ser			
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Arg Asp Asp Leu Tyr Asp Pro Asp Asp Pro Arg Asp Leu Pro His Ser	
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Arg Asp Pro His Tyr Tyr Asp Asp Leu Arg Ser Arg Asp Pro Arg Ala	
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Asp Pro Arg Ser Arg Gln Arg Ser His Asp Pro Arg Asp Ala Gly Phe	
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agg tca cgg gac cct cag tat gat ggg cga ctc tta gaa gag gct tta	1636
Arg Ser Arg Asp Pro Gln Tyr Asp Gly Arg Leu Leu Glu Glu Ala Leu	
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Gly Ala Pro Gly Ser His Pro Ala Thr Thr Ile Phe Val Cys Leu Phe	
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Leu Ile Ile Tyr Cys Pro Asp Arg Ala Ser Ala Ile Gln Val Thr Val	
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Pro Asp Pro Tyr His Val Val Ile Leu Phe Gln Pro Val Thr Leu His	
45 50 55	
tgc acc tac cag atg agc aat acc ctc aca gcc cct atc gtg atc tgg	244
Cys Thr Tyr Gln Met Ser Asn Thr Leu Thr Ala Pro Ile Val Ile Trp	
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Lys Tyr Lys Ser Phe Cys Arg Asp Arg Val Ala Asp Ala Phe Ser Pro	
75 80 85	
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Ala Ser Val Asp Asn Gln Leu Asn Ala Gln Leu Ala Ala Gly Asn Pro	
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Gly Tyr Asn Pro Tyr Val Glu Cys Gln Asp Ser Val Arg Thr Val Arg	
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Val Val Ala Thr Lys Gln Gly Asn Ala Val Thr Leu Gly Asp Tyr Tyr	
125 130 135	
cag ggc agg aga atc acc atc aca gga aat gct ggc ctg acc ttc gag	484

Gln	Gly	Arg	Arg	Ile	Thr	Ile	Thr	Gly	Asn	Ala	Gly	Leu	Thr	Phe	Glu		
		140					145				150						
cag	acg	gcc	tgg	gga	gac	agt	gga	gtg	tat	tac	tgc	tcc	gtg	gtc	tca	532	
Gln	Thr	Ala	Trp	Gly	Asp	Ser	Gly	Val	Tyr	Tyr	Cys	Ser	Val	Val	Ser		
		155					160				165						
gcc	caa	gat	ctg	gat	ggg	aac	aac	gag	gcg	tac	gca	gag	ctc	att	gtc	580	
Ala	Gln	Asp	Leu	Asp	Gly	Asn	Asn	Glu	Ala	Tyr	Ala	Glu	Leu	Ile	Val		
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ctt	gat	tgg	ctc	ttt	gtg	gtc	gtg	gtc	tgc	ctg	gca	agc	ctc	ctc	ttc	628	
Leu	Asp	Trp	Leu	Phe	Val	Val	Val	Val	Cys	Leu	Ala	Ser	Leu	Leu	Phe		
				190					195					200			
ttc	ctc	ctc	ctg	ggc	atc	tgc	tgg	tgc	cag	tgc	tgt	ccc	cac	acc	tgc	676	
Phe	Leu	Leu	Leu	Gly	Ile	Cys	Trp	Cys	Gln	Cys	Cys	Pro	His	Thr	Cys		
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tgc	tgc	tat	gtc	aga	tgt	ccc	tgc	tgc	cca	gac	aag	tgc	tgt	tgc	cct	724	
Cys	Cys	Tyr	Val	Arg	Cys	Pro	Cys	Cys	Pro	Asp	Lys	Cys	Cys	Cys	Pro		
		220					225				230						
gag	gcc	ctt	tat	gct	gct	ggc	aaa	gca	gcc	acc	tca	ggg	gtg	cca	agc	772	
Glu	Ala	Leu	Tyr	Ala	Ala	Gly	Lys	Ala	Ala	Thr	Ser	Gly	Val	Pro	Ser		
		235				240				245							
atc	tat	gcc	ccc	agc	atc	tat	acc	cac	ctc	tct	cct	gcc	aag	act	ccg	820	
Ile	Tyr	Ala	Pro	Ser	Ile	Tyr	Thr	His	Leu	Ser	Pro	Ala	Lys	Thr	Pro		
		250			255				260					265			
cca	cct	ccg	cct	gcc	atg	att	ccc	atg	cgt	cct	ccc	tat	ggg	tac	cct	868	
Pro	Pro	Pro	Pro	Ala	Met	Ile	Pro	Met	Arg	Pro	Pro	Tyr	Gly	Tyr	Pro		
				270				275					280				
gga	gac	ttt	gac	agg	acc	agc	tca	gtt	ggg	ggc	cac	agc	tcc	cag	gtg	916	
Gly	Asp	Phe	Asp	Arg	Thr	Ser	Ser	Val	Gly	Gly	His	Ser	Ser	Gln	Val		
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ccc	ctg	ctg	cgt	gaa	gtg	gat	ggg	agc	gta	tct	tca	gaa	gta	cga	agt	964	
Pro	Leu	Leu	Arg	Glu	Val	Asp	Gly	Ser	Val	Ser	Ser	Glu	Val	Arg	Ser		
		300					305				310						
ggc	tac	agg	atc	cag	gct	aac	cag	caa	gat	gac	tcc	atg	agg	gtc	cta	1012	
Gly	Tyr	Arg	Ile	Gln	Ala	Asn	Gln	Gln	Asp	Asp	Ser	Met	Arg	Val	Leu		
		315				320				325							
tac	tat	atg	gag	aag	gag	cta	gcc	aac	ttc	gat	cct	tcc	cgg	cct	ggc	1060	
Tyr	Tyr	Met	Glu	Lys	Glu	Leu	Ala	Asn	Phe	Asp	Pro	Ser	Arg	Pro	Gly		
		330			335				340					345			
cct	ccc	aat	ggc	cga	gtg	gaa	cgg	gcc	atg	agt	gaa	gta	acc	tcc	ctc	1108	
Pro	Pro	Asn	Gly	Arg	Val	Glu	Arg	Ala	Met	Ser	Glu	Val	Thr	Ser	Leu		
			350					355					360				
cat	gaa	gat	gac	tgg	cga	tct	cgg	cct	tcc	agg	gct	cct	gcc	ctc	aca	1156	
His	Glu	Asp	Asp	Trp	Arg	Ser	Arg	Pro	Ser	Arg	Ala	Pro	Ala	Leu	Thr		
		365					370				375						
ccc	atc	agg	gat	gag	gag	tgg	aat	cgc	cac	tcc	cct	cgg	agt	ccc	aga	1204	
Pro	Ile	Arg	Asp	Glu	Glu	Trp	Asn	Arg	His	Ser	Pro	Arg	Ser	Pro	Arg		
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aca	tgg	gag	cag	gaa	ccc	ctt	caa	gaa	cag	cca	agg	ggg	ggg	tgg	ggg	1252	
Thr	Trp	Glu	Gln	Glu	Pro	Leu	Gln	Glu	Gln	Pro	Arg	Gly	Gly	Trp	Gly		
		395				400				405							
tct	ggg	cgg	cct	cgg	gcc	cgc	tct	gtg	gat	gct	cta	gat	gac	atc	aac	1300	
Ser	Gly	Arg	Pro	Arg	Ala	Arg	Ser	Val	Asp	Ala	Leu	Asp	Asp	Ile	Asn		
		410			415				420					425			
cgg	cct	ggc	tcc	act	gaa	tca	gga	agg	tct	tct	ccc	cca	agt	agt	gga	1348	
Arg	Pro	Gly	Ser	Thr	Glu	Ser	Gly	Arg	Ser	Ser	Pro	Pro	Ser	Ser	Gly		
			430					435					440				
cgg	aga	ggg	cgg	gcc	tat	gca	cct	ccg	aga	agt	cgc	agc	cgg	gat	gac	1396	
Arg	Arg	Gly	Arg	Ala	Tyr	Ala	Pro	Pro	Arg	Ser	Arg	Ser	Arg	Asp	Asp		
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ctc tat gac ccc gac gat cct aga gac ttg cca cat tcc cga gat ccc	1444
Leu Tyr Asp Pro Asp Asp Pro Arg Asp Leu Pro His Ser Arg Asp Pro	
460 465 470	
cac tat tat gat gat ttg agg tct agg gat cca cgt gct gac ccc aga	1492
His Tyr Tyr Asp Asp Leu Arg Ser Arg Asp Pro Arg Ala Asp Pro Arg	
475 480 485	
tcc cgt cag cga tcc cac gat cct cgg gat gct ggc ttc agg tca cgg	1540
Ser Arg Gln Arg Ser His Asp Pro Arg Asp Ala Gly Phe Arg Ser Arg	
490 495 500 505	
gac cct cag tat gat ggg cga ctc tta gaa gag gct tta aag aaa aaa	1588
Asp Pro Gln Tyr Asp Gly Arg Leu Leu Glu Glu Ala Leu Lys Lys Lys	
510 515 520	
ggg gct ggg gag aga aga cgc gtt tac agg gag gaa gaa gaa gaa gaa	1636
Gly Ala Gly Glu Arg Arg Arg Val Tyr Arg Glu Glu Glu Glu Glu Glu	
525 530 535	
gag gag ggc cac tat ccc cca gca cct ccg cct tac tct gag act gac	1684
Glu Glu Gly His Tyr Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr Asp	
540 545 550	
tcg cag gcc tcg agg gag cgg agg atg aaa aag aat ttg gcc ctg agt	1732
Ser Gln Ala Ser Arg Glu Arg Arg Met Lys Lys Asn Leu Ala Leu Ser	
555 560 565	
cgg gaa agt tta gtc gtc tga tccccggttt tgttatgtag cttttatact	1783
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Gly Ala Pro Gly Ser His Pro Ala Thr Thr Ile Phe Val Cys Leu Phe	
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ctc atc att tac tgc cca gac cgt gcc agt gcc atc cag gtg acc gtg	148
Leu Ile Ile Tyr Cys Pro Asp Arg Ala Ser Ala Ile Gln Val Thr Val	
30 35 40	
cct gac ccc tac cac gta gtg atc ctg ttc cag cca gtg aca cta cac	196
Pro Asp Pro Tyr His Val Val Ile Leu Phe Gln Pro Val Thr Leu His	
45 50 55	
tgc acc tac cag atg agc aat acc ctc aca gcc cct atc gtg atc tgg	244
Cys Thr Tyr Gln Met Ser Asn Thr Leu Thr Ala Pro Ile Val Ile Trp	
60 65 70	
aag tat aag tcg ttc tgt cgg gac cgt gtt gcc gac gcc ttc tcc cct	292
Lys Tyr Lys Ser Phe Cys Arg Asp Arg Val Ala Asp Ala Phe Ser Pro	
75 80 85	
gcc agc gtg gac aac cag ctc aac gcc cag ctg gcg gct ggc aac ccc	340
Ala Ser Val Asp Asn Gln Leu Asn Ala Gln Leu Ala Ala Gly Asn Pro	
90 95 100 105	
ggc tac aac ccc tat gtg gag tgc cag gac agc gta cgc act gtc agg	388
Gly Tyr Asn Pro Tyr Val Glu Cys Gln Asp Ser Val Arg Thr Val Arg	
110 115 120	
gtg gtg gcc acc aaa cag ggc aat gct gtg acc ctg gga gac tac tac	436
Val Val Ala Thr Lys Gln Gly Asn Ala Val Thr Leu Gly Asp Tyr Tyr	
125 130 135	

cag ggc agg aga atc acc atc aca gga aat gct ggc ctg acc ttc gag	484
Gln Gly Arg Arg Ile Thr Ile Thr Gly Asn Ala Gly Leu Thr Phe Glu	
140 145 150	
cag acg gcc tgg gga gac agt gga gtg tat tac tgc tcc gtg gtc tca	532
Gln Thr Ala Trp Gly Asp Ser Gly Val Tyr Tyr Cys Ser Val Val Ser	
155 160 165	
gcc caa gat ctg gat ggg aac aac gag gcg tac gca gag ctc att gtc	580
Ala Gln Asp Leu Asp Gly Asn Asn Glu Ala Tyr Ala Glu Leu Ile Val	
170 175 180 185	
ctt gtt tat gct gct ggc aaa gca gcc acc tca ggt gtg cca agc atc	628
Leu Val Tyr Ala Ala Gly Lys Ala Ala Thr Ser Gly Val Pro Ser Ile	
190 195 200	
tat gcc ccc agc atc tat acc cac ctc tct cct gcc aag act ccg cca	676
Tyr Ala Pro Ser Ile Tyr Thr His Leu Ser Pro Ala Lys Thr Pro Pro	
205 210 215	
cct ccg cct gcc atg att ccc atg cgt cct ccc tat ggg tac cct gga	724
Pro Pro Pro Ala Met Ile Pro Met Arg Pro Pro Tyr Gly Tyr Pro Gly	
220 225 230	
gac ttt gac agg acc agc tca gtt ggt ggc cac agc tcc cag gtg ccc	772
Asp Phe Asp Arg Thr Ser Ser Val Gly Gly His Ser Ser Gln Val Pro	
235 240 245	
ctg ctg cgt gaa gtg gat ggg agc gta tct tca gaa gta cga agt ggc	820
Leu Leu Arg Glu Val Asp Gly Ser Val Ser Glu Val Arg Ser Gly	
250 255 260 265	
tac agg atc cag gct aac cag caa gat gac tcc atg agg gtc cta tac	868
Tyr Arg Ile Gln Ala Asn Gln Gln Asp Asp Ser Met Arg Val Leu Tyr	
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tat atg gag aag gag cta gcc aac ttc gat cct tcc cgg cct ggc cct	916
Tyr Met Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser Arg Pro Gly Pro	
285 290 295	
ccc aat ggc cga gtg gaa cgg gcc atg agt gaa gta acc tcc ctc cat	964
Pro Asn Gly Arg Val Glu Arg Ala Met Ser Glu Val Thr Ser Leu His	
300 305 310	
gaa gat gac tgg cga tct cgg cct tcc agg gct cct gcc ctc aca ccc	1012
Glu Asp Asp Trp Arg Ser Arg Pro Ser Arg Ala Pro Ala Leu Thr Pro	
315 320 325	
atc agg gat gag gag tgg aat cgc cac tcc cct cgg agt ccc aga aca	1060
Ile Arg Asp Glu Glu Trp Asn Arg His Ser Pro Arg Ser Pro Arg Thr	
330 335 340 345	
tgg gag cag gaa ccc ctt caa gaa cag cca agg ggt ggt tgg ggg tct	1108
Trp Glu Gln Glu Pro Leu Gln Glu Gln Pro Arg Gly Gly Trp Gly Ser	
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ggg cgg cct cgg gcc cgc tct gtg gat gct cta gat gac atc aac cgg	1156
Gly Arg Pro Arg Ala Arg Ser Val Asp Ala Leu Asp Asp Ile Asn Arg	
365 370 375	
cct ggc tcc act gaa tca gga agg tct tct ccc cca agt agt gga cgg	1204
Pro Gly Ser Thr Glu Ser Gly Arg Ser Ser Pro Pro Ser Ser Gly Arg	
380 385 390	
aga ggg cgg gcc tat gca cct ccg aga agt cgc agc cgg gat gac ctc	1252
Arg Gly Arg Ala Tyr Ala Pro Pro Arg Ser Arg Ser Arg Asp Asp Leu	
395 400 405	
tat gac ccc gac gat cct aga gac ttg cca cat tcc cga gat ccc cac	1300
Tyr Asp Pro Asp Asp Pro Arg Asp Leu Pro His Ser Arg Asp Pro His	
410 415 420 425	
tat tat gat gat ttg agg tct agg gat cca cgt gct gac ccc aga tcc	1348
Tyr Tyr Asp Asp Leu Arg Ser Arg Asp Pro Arg Ala Asp Pro Arg Ser	
430 435 440	
cgt cag cga tcc cac gat cct cgg gat gct ggc ttc agg tca cgg gac	1396
Arg Gln Arg Ser His Asp Pro Arg Asp Ala Gly Phe Arg Ser Arg Asp	

	445	450	455	
cct cag tat gat ggg cga ctc tta gaa gag gct tta aag aaa aaa ggg				1444
Pro Gln Tyr Asp Gly Arg Leu Leu Glu Glu Ala Leu Lys Lys Lys Gly				
	460	465	470	
gct ggg gag aga aga cgc gtt tac agg gag gaa gaa gaa gaa gag				1492
Ala Gly Glu Arg Arg Arg Val Tyr Arg Glu Glu Glu Glu Glu Glu				
	475	480	485	
gag ggc cac tat ccc cca gca cct ccg cct tac tct gag act gac tcg				1540
Glu Gly His Tyr Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr Asp Ser				
	490	495	500	505
cag gcc tcg agg gag cgg agg atg aaa aag aat ttg gcc ctg agt cgg				1588
Gln Ala Ser Arg Glu Arg Arg Met Lys Lys Asn Leu Ala Leu Ser Arg				
	510	515	520	
gaa agt tta gtc gtc tga tcccacgttt tggtatgtag cttttatact				1636
Glu Ser Leu Val Val *				
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 <213> Mus musculus

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 35 40 45  
 Ile Leu Phe Gln Pro Val Thr Leu His Cys Thr Tyr Gln Met Ser Asn  
 50 55 60  
 Thr Leu Thr Ala Pro Ile Val Ile Trp Lys Tyr Lys Ser Phe Cys Arg  
 65 70 75 80  
 Asp Arg Val Ala Asp Ala Phe Ser Pro Ala Ser Val Asp Asn Gln Leu  
 85 90 95  
 Asn Ala Gln Leu Ala Ala Gly Asn Pro Gly Tyr Asn Pro Tyr Val Glu  
 100 105 110  
 Cys Gln Asp Ser Val Arg Thr Val Arg Val Val Ala Thr Lys Gln Gly  
 115 120 125  
 Asn Ala Val Thr Leu Gly Asp Tyr Tyr Gln Gly Arg Arg Ile Thr Ile  
 130 135 140  
 Thr Gly Asn Ala Gly Leu Thr Phe Glu Gln Thr Ala Trp Gly Asp Ser  
 145 150 155 160  
 Gly Val Tyr Tyr Cys Ser Val Val Ser Ala Gln Asp Leu Asp Gly Asn  
 165 170 175  
 Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Gly Arg Thr Ser Glu Ala  
 180 185 190  
 Pro Glu Leu Leu Pro Gly Phe Arg Ala Gly Pro Leu Glu Asp Trp Leu  
 195 200 205  
 Phe Val Val Val Val Cys Leu Ala Ser Leu Leu Phe Phe Leu Leu Leu  
 210 215 220  
 Gly Ile Cys Trp Cys Gln Cys Cys Pro His Thr Cys Cys Cys Tyr Val  
 225 230 235 240  
 Arg Cys Pro Cys Cys Pro Asp Lys Cys Cys Cys Pro Glu Ala Leu Tyr  
 245 250 255  
 Ala Ala Gly Lys Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr Ala Pro  
 260 265 270  
 Ser Ile Tyr Thr His Leu Ser Pro Ala Lys Thr Pro Pro Pro Pro

275	280	285
Ala Met Ile Pro Met Arg Pro Pro Tyr Gly Tyr Pro Gly Asp Phe Asp		
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Arg Thr Ser Ser Val Gly His Ser Ser Gln Val Pro Leu Leu Arg		
305	310	315
Glu Val Asp Gly Ser Val Ser Ser Glu Val Arg Ser Gly Tyr Arg Ile		
325	330	335
Gln Ala Asn Gln Gln Asp Asp Ser Met Arg Val Leu Tyr Tyr Met Glu		
340	345	350
Lys Glu Leu Ala Asn Phe Asp Pro Ser Arg Pro Gly Pro Pro Asn Gly		
355	360	365
Arg Val Glu Arg Ala Met Ser Glu Val Thr Ser Leu His Glu Asp Asp		
370	375	380
Trp Arg Ser Arg Pro Ser Arg Ala Pro Ala Leu Thr Pro Ile Arg Asp		
385	390	395
Glu Glu Trp Asn Arg His Ser Pro Arg Ser Pro Arg Thr Trp Glu Gln		
405	410	415
Glu Pro Leu Gln Glu Gln Pro Arg Gly Gly Trp Gly Ser Gly Arg Pro		
420	425	430
Arg Ala Arg Ser Val Asp Ala Leu Asp Asp Ile Asn Arg Pro Gly Ser		
435	440	445
Thr Glu Ser Gly Arg Ser Ser Pro Pro Ser Ser Gly Arg Arg Gly Arg		
450	455	460
Ala Tyr Ala Pro Pro Arg Ser Arg Ser Arg Asp Asp Leu Tyr Asp Pro		
465	470	475
Asp Asp Pro Arg Asp Leu Pro His Ser Arg Asp Pro His Tyr Tyr Asp		
485	490	495
Asp Leu Arg Ser Arg Asp Pro Arg Ala Asp Pro Arg Ser Arg Gln Arg		
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Ser His Asp Pro Arg Asp Ala Gly Phe Arg Ser Arg Asp Pro Gln Tyr		
515	520	525
Asp Gly Arg Leu Leu Glu Glu Ala Leu Lys Lys Lys Gly Ala Gly Glu		
530	535	540
Arg Arg Arg Val Tyr Arg Glu Glu Glu Glu Glu Glu Glu Gly His		
545	550	555
Tyr Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr Asp Ser Gln Ala Ser		
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Arg Glu Arg Arg Met Lys Lys Asn Leu Ala Leu Ser Arg Glu Ser Leu		
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Val Val		

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<211> 575

<212> PRT

<213> Mus musculus

<400> 18

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35	40	45
Ile Leu Phe Gln Pro Val Thr Leu His Cys Thr Tyr Gln Met Ser Asn		
50	55	60
Thr Leu Thr Ala Pro Ile Val Ile Trp Lys Tyr Lys Ser Phe Cys Arg		
65	70	75
Asp Arg Val Ala Asp Ala Phe Ser Pro Ala Ser Val Asp Asn Gln Leu		
85	90	95



Asn Ala Gln Leu Ala Ala Gly Asn Pro Gly Tyr Asn Pro Tyr Val Glu  
 100 105 110  
 Cys Gln Asp Ser Val Arg Thr Val Arg Val Val Ala Thr Lys Gln Gly  
 115 120 125  
 Asn Ala Val Thr Leu Gly Asp Tyr Tyr Gln Gly Arg Arg Ile Thr Ile  
 130 135 140  
 Thr Gly Asn Ala Gly Leu Thr Phe Glu Gln Thr Ala Trp Gly Asp Ser  
 145 150 155 160  
 Gly Val Tyr Tyr Cys Ser Val Val Ser Ala Gln Asp Leu Asp Gly Asn  
 165 170 175  
 Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Asp Trp Leu Phe Val Val  
 180 185 190  
 Val Val Cys Leu Ala Ser Leu Leu Phe Phe Leu Leu Leu Gly Ile Cys  
 195 200 205  
 Trp Cys Gln Cys Cys Pro His Thr Cys Cys Cys Tyr Val Arg Cys Pro  
 210 215 220  
 Cys Cys Pro Asp Lys Cys Cys Cys Pro Glu Ala Leu Tyr Ala Ala Gly  
 225 230 235 240  
 Lys Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr Ala Pro Ser Ile Tyr  
 245 250 255  
 Thr His Leu Ser Pro Ala Lys Thr Pro Pro Pro Pro Ala Met Ile  
 260 265 270  
 Pro Met Arg Pro Pro Tyr Gly Tyr Pro Gly Asp Phe Asp Arg Thr Ser  
 275 280 285  
 Ser Val Gly Gly His Ser Ser Gln Val Pro Leu Leu Arg Glu Val Asp  
 290 295 300  
 Gly Ser Val Ser Ser Glu Val Arg Ser Gly Tyr Arg Ile Gln Ala Asn  
 305 310 315 320  
 Gln Gln Asp Asp Ser Met Arg Val Leu Tyr Tyr Met Glu Lys Glu Leu  
 325 330 335  
 Ala Asn Phe Asp Pro Ser Arg Pro Gly Pro Pro Asn Gly Arg Val Glu  
 340 345 350  
 Arg Ala Met Ser Glu Val Thr Ser Leu His Glu Asp Asp Trp Arg Ser  
 355 360 365  
 Arg Pro Ser Arg Ala Pro Ala Leu Thr Pro Ile Arg Asp Glu Glu Trp  
 370 375 380  
 Asn Arg His Ser Pro Arg Ser Pro Arg Thr Trp Glu Gln Glu Pro Leu  
 385 390 395 400  
 Gln Glu Gln Pro Arg Gly Gly Trp Gly Ser Gly Arg Pro Arg Ala Arg  
 405 410 415  
 Ser Val Asp Ala Leu Asp Asp Ile Asn Arg Pro Gly Ser Thr Glu Ser  
 420 425 430  
 Gly Arg Ser Ser Pro Pro Ser Ser Gly Arg Arg Gly Arg Ala Tyr Ala  
 435 440 445  
 Pro Pro Arg Ser Arg Ser Arg Asp Asp Leu Tyr Asp Pro Asp Asp Pro  
 450 455 460  
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 465 470 475 480  
 Ser Arg Asp Pro Arg Ala Asp Pro Arg Ser Arg Gln Arg Ser His Asp  
 485 490 495  
 Pro Arg Asp Ala Gly Phe Arg Ser Arg Asp Pro Gln Tyr Asp Gly Arg  
 500 505 510  
 Leu Leu Glu Glu Ala Leu Lys Lys Lys Gly Ala Gly Glu Arg Arg Arg  
 515 520 525  
 Val Tyr Arg Glu Glu Glu Glu Glu Glu Glu Gly His Tyr Pro Pro  
 530 535 540  
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565

570

575

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 <212> PRT  
 <213> Mus musculus

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 35 40 45  
 Ile Leu Phe Gln Pro Val Thr Leu His Cys Thr Tyr Gln Met Ser Asn  
 50 55 60  
 Thr Leu Thr Ala Pro Ile Val Ile Trp Lys Tyr Lys Ser Phe Cys Arg  
 65 70 75 80  
 Asp Arg Val Ala Asp Ala Phe Ser Pro Ala Ser Val Asp Asn Gln Leu  
 85 90 95  
 Asn Ala Gln Leu Ala Ala Gly Asn Pro Gly Tyr Asn Pro Tyr Val Glu  
 100 105 110  
 Cys Gln Asp Ser Val Arg Thr Val Arg Val Val Ala Thr Lys Gln Gly  
 115 120 125  
 Asn Ala Val Thr Leu Gly Asp Tyr Tyr Gln Gly Arg Arg Ile Thr Ile  
 130 135 140  
 Thr Gly Asn Ala Gly Leu Thr Phe Glu Gln Thr Ala Trp Gly Asp Ser  
 145 150 155 160  
 Gly Val Tyr Tyr Cys Ser Val Val Ser Ala Gln Asp Leu Asp Gly Asn  
 165 170 175  
 Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Val Tyr Ala Ala Gly Lys  
 180 185 190  
 Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr Ala Pro Ser Ile Tyr Thr  
 195 200 205  
 His Leu Ser Pro Ala Lys Thr Pro Pro Pro Pro Pro Ala Met Ile Pro  
 210 215 220  
 Met Arg Pro Pro Tyr Gly Tyr Pro Gly Asp Phe Asp Arg Thr Ser Ser  
 225 230 235 240  
 Val Gly Gly His Ser Ser Gln Val Pro Leu Leu Arg Glu Val Asp Gly  
 245 250 255  
 Ser Val Ser Ser Glu Val Arg Ser Gly Tyr Arg Ile Gln Ala Asn Gln  
 260 265 270  
 Gln Asp Asp Ser Met Arg Val Leu Tyr Tyr Met Glu Lys Glu Leu Ala  
 275 280 285  
 Asn Phe Asp Pro Ser Arg Pro Gly Pro Pro Asn Gly Arg Val Glu Arg  
 290 295 300  
 Ala Met Ser Glu Val Thr Ser Leu His Glu Asp Asp Trp Arg Ser Arg  
 305 310 315 320  
 Pro Ser Arg Ala Pro Ala Leu Thr Pro Ile Arg Asp Glu Glu Trp Asn  
 325 330 335  
 Arg His Ser Pro Arg Ser Pro Arg Thr Trp Glu Gln Glu Pro Leu Gln  
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 Glu Gln Pro Arg Gly Gly Trp Gly Ser Gly Arg Pro Arg Ala Arg Ser  
 355 360 365  
 Val Asp Ala Leu Asp Asp Ile Asn Arg Pro Gly Ser Thr Glu Ser Gly  
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Thr Leu Ile Lys Thr Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr  
 35 40 45  
 Gln Ser Val Ser Ser Lys Gln Arg Val Thr Gly Leu Asp Phe Ile Pro  
 50 55 60  
 Gly Leu His Pro Leu Leu Ser Leu Ser Lys Met Asp Gln Thr Leu Ala  
 65 70 75 80  
 Ile Tyr Gln Gln Ile Leu Thr Ser Leu Pro Ser Arg Asn Val Val Gln  
 85 90 95  
 Ile Ser Asn Asp Leu Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala  
 100 105 110  
 Ala Ser Lys Ser Cys Pro Leu Pro Gln Val Arg Ala Leu Glu Ser Leu  
 115 120 125  
 Glu Ser Leu Gly Val Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val  
 130 135 140  
 Val Ala Leu Ser Arg Leu Gln Gly Ser Leu Gln Asp Met Leu Arg Gln  
 145 150 155 160  
 Leu Asp Leu Ser Pro Gly Cys  
 165

<210> 29  
 <211> 146  
 <212> PRT  
 <213> Canis familiaris

<400> 29  
 Val Pro Ile Arg Lys Val Gln Asp Asp Thr Lys Thr Leu Ile Lys Thr  
 1 5 10 15  
 Ile Val Ala Arg Ile Asn Asp Ile Ser His Thr Gln Ser Val Ser Ser  
 20 25 30  
 Lys Gln Arg Val Ala Gly Leu Asp Phe Ile Pro Gly Leu Gln Pro Val  
 35 40 45  
 Leu Ser Leu Ser Arg Met Asp Gln Thr Leu Ala Ile Tyr Gln Gln Ile  
 50 55 60  
 Leu Asn Ser Leu His Ser Arg Asn Val Val Gln Ile Ser Asn Asp Leu  
 65 70 75 80  
 Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala Ser Ser Lys Ser Cys  
 85 90 95  
 Pro Leu Pro Arg Ala Arg Gly Leu Glu Thr Phe Glu Ser Leu Gly Gly  
 100 105 110  
 Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val Val Ala Leu Ser Arg  
 115 120 125  
 Leu Gln Ala Ala Leu Gln Asp Met Leu Arg Arg Leu Asp Leu Ser Pro  
 130 135 140  
 Gly Cys  
 145

<210> 30  
 <211> 163  
 <212> PRT  
 <213> Gallus gallus

<400> 30  
 Met Cys Trp Arg Pro Leu Cys Arg Leu Trp Ser Tyr Leu Val Tyr Val  
 1 5 10 15  
 Gln Ala Val Pro Cys Gln Ile Phe Gln Asp Asp Thr Lys Thr Leu Ile  
 20 25 30  
 Lys Thr Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr Ser Val Ser  
 35 40 45  
 Ala Lys Gln Arg Val Thr Gly Leu Asp Phe Ile Pro Gly Leu His Pro

50                      55                      60  
 Ile Leu Ser Leu Ser Lys Met Asp Gln Thr Leu Ala Val Tyr Gln Gln  
 65                      70                      75                      80  
 Val Leu Thr Ser Leu Pro Ser Gln Asn Val Leu Gln Ile Ala Asn Asp  
                     85                      90                      95  
 Leu Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala Phe Ser Lys Ser  
                     100                      105                      110  
 Cys Ser Leu Pro Gln Thr Ser Gly Leu Gln Lys Pro Glu Ser Leu Asp  
                     115                      120                      125  
 Gly Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val Val Ala Leu Ser  
                     130                      135                      140  
 Arg Leu Gln Gly Ser Leu Gln Asp Ile Leu Gln Leu Asp Ile Ser  
 145                      150                      155                      160  
 Pro Glu Cys

<210> 31  
 <211> 146  
 <212> PRT  
 <213> Gorilla gorilla

<400> 31  
 Val Pro Ile Gln Lys Val Gln Asp Asp Thr Lys Thr Leu Ile Lys Thr  
 1                      5                      10                      15  
 Ile Val Thr Arg Ile Ser Asp Ile Ser His Thr Gln Ser Val Ser Ser  
                     20                      25                      30  
 Lys Gln Lys Val Thr Gly Leu Asp Phe Ile Pro Gly Leu His Pro Ile  
                     35                      40                      45  
 Leu Thr Leu Ser Lys Met Asp Gln Thr Leu Ala Val Tyr Gln Gln Ile  
                     50                      55                      60  
 Leu Thr Ser Met Pro Ser Arg Asn Met Ile Gln Ile Ser Asn Asp Leu  
 65                      70                      75                      80  
 Glu Asn Leu Arg Asp Leu Leu His Val Leu Ala Phe Ser Lys Ser Cys  
                     85                      90                      95  
 His Leu Pro Trp Ala Ser Gly Leu Glu Thr Leu Asp Ser Leu Gly Gly  
                     100                      105                      110  
 Val Leu Glu Ala Ser Gly Tyr Ser Thr Glu Val Val Ala Leu Ser Arg  
                     115                      120                      125  
 Leu Gln Gly Ser Leu Gln Asp Met Leu Trp Gln Leu Asp Leu Ser Pro  
                     130                      135                      140  
 Gly Cys  
 145

<210> 32  
 <211> 167  
 <212> PRT  
 <213> Homo sapiens

<400> 32  
 Met His Trp Gly Thr Leu Cys Gly Phe Leu Trp Leu Trp Pro Tyr Leu  
 1                      5                      10                      15  
 Phe Tyr Val Gln Ala Val Pro Ile Gln Lys Val Gln Asp Asp Thr Lys  
                     20                      25                      30  
 Thr Leu Ile Lys Thr Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr  
                     35                      40                      45  
 Gln Ser Val Ser Ser Lys Gln Lys Val Thr Gly Leu Asp Phe Ile Pro  
                     50                      55                      60  
 Gly Leu His Pro Ile Leu Thr Leu Ser Lys Met Asp Gln Thr Leu Ala  
 65                      70                      75                      80  
 Val Tyr Gln Gln Ile Leu Thr Ser Met Pro Ser Arg Asn Val Ile Gln

				85					90					95					
Ile	Ser	Asn	Asp	Leu	Glu	Asn	Leu	Arg	Asp	Leu	Leu	His	Val	Leu	Ala				
			100						105					110					
Phe	Ser	Lys	Ser	Cys	His	Leu	Pro	Trp	Ala	Ser	Gly	Leu	Glu	Thr	Leu				
		115						120					125						
Asp	Ser	Leu	Gly	Gly	Val	Leu	Glu	Ala	Ser	Gly	Tyr	Ser	Thr	Glu	Val				
	130					135					140								
Val	Ala	Leu	Ser	Arg	Leu	Gln	Gly	Ser	Leu	Gln	Asp	Met	Leu	Trp	Gln				
145					150					155					160				
Leu	Asp	Leu	Ser	Pro	Gly	Cys													
					165														

<210> 33  
 <211> 167  
 <212> PRT  
 <213> Macaca mulatta

Met	Tyr	Trp	Arg	Thr	Leu	Trp	Gly	Phe	Leu	Trp	Leu	Trp	Pro	Tyr	Leu				
1				5				10						15					
Phe	Tyr	Ile	Gln	Ala	Val	Pro	Ile	Gln	Lys	Val	Gln	Ser	Asp	Thr	Lys				
		20						25					30						
Thr	Leu	Ile	Lys	Thr	Ile	Val	Thr	Arg	Ile	Asn	Asp	Ile	Ser	His	Thr				
	35						40					45							
Gln	Ser	Val	Ser	Ser	Lys	Gln	Arg	Val	Thr	Gly	Leu	Asp	Phe	Ile	Pro				
	50					55					60								
Gly	Leu	His	Pro	Val	Leu	Thr	Leu	Ser	Gln	Met	Asp	Gln	Thr	Leu	Ala				
65					70					75					80				
Ile	Tyr	Gln	Gln	Ile	Leu	Ile	Asn	Leu	Pro	Ser	Arg	Asn	Val	Ile	Gln				
				85					90					95					
Ile	Ser	Asn	Asp	Leu	Glu	Asn	Leu	Arg	Asp	Leu	Leu	His	Leu	Leu	Ala				
			100					105					110						
Phe	Ser	Lys	Ser	Cys	His	Leu	Pro	Leu	Ala	Ser	Gly	Leu	Glu	Thr	Leu				
		115						120					125						
Glu	Ser	Leu	Gly	Asp	Val	Leu	Glu	Ala	Ser	Leu	Tyr	Ser	Thr	Glu	Val				
	130					135					140								
Val	Ala	Leu	Ser	Arg	Leu	Gln	Gly	Ser	Leu	Gln	Asp	Met	Leu	Trp	Gln				
145					150					155					160				
Leu	Asp	Leu	Ser	Pro	Gly	Cys													
					165														

<210> 34  
 <211> 167  
 <212> PRT  
 <213> Mus musculus

Met	Cys	Trp	Arg	Pro	Leu	Cys	Arg	Phe	Leu	Trp	Leu	Trp	Ser	Tyr	Leu				
1				5				10						15					
Ser	Tyr	Val	Gln	Ala	Val	Pro	Ile	Gln	Lys	Val	Gln	Asp	Asp	Thr	Lys				
		20						25					30						
Thr	Leu	Ile	Lys	Thr	Ile	Val	Thr	Arg	Ile	Asn	Asp	Ile	Ser	His	Thr				
	35						40					45							
Gln	Ser	Val	Ser	Ala	Lys	Gln	Arg	Val	Thr	Gly	Leu	Asp	Phe	Ile	Pro				
	50					55					60								
Gly	Leu	His	Pro	Ile	Leu	Ser	Leu	Ser	Lys	Met	Asp	Gln	Thr	Leu	Ala				
65					70					75					80				
Val	Tyr	Gln	Gln	Val	Leu	Thr	Ser	Leu	Pro	Ser	Gln	Asn	Val	Leu	Gln				
				85					90					95					

Ile Ala Asn Asp Leu Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala  
100 105 110  
Phe Ser Lys Ser Cys Ser Leu Pro Gln Thr Ser Gly Leu Gln Lys Pro  
115 120 125  
Glu Ser Leu Asp Gly Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val  
130 135 140  
Val Ala Leu Ser Arg Leu Gln Gly Ser Leu Gln Asp Ile Leu Gln Gln  
145 150 155 160  
Leu Asp Val Ser Pro Glu Cys  
165

<210> 35  
<211> 146  
<212> PRT  
<213> Ovus aries

<400> 35  
Val Pro Ile Arg Lys Val Gln Asp Asp Thr Lys Thr Leu Ile Lys Thr  
1 5 10 15  
Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr Gln Ser Val Ser Ser  
20 25 30  
Lys Gln Arg Val Thr Gly Leu Asp Phe Ile Pro Gly Leu His Pro Leu  
35 40 45  
Leu Ser Leu Ser Lys Met Asp Gln Thr Leu Ala Ile Tyr Gln Gln Ile  
50 55 60  
Leu Ala Ser Leu Pro Ser Arg Asn Val Ile Gln Ile Ser Asn Asp Leu  
65 70 75 80  
Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala Ala Ser Lys Ser Cys  
85 90 95  
Pro Leu Pro Gln Val Arg Ala Leu Glu Ser Leu Glu Ser Leu Gly Val  
100 105 110  
Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val Val Ala Leu Ser Arg  
115 120 125  
Leu Gln Gly Ser Leu Gln Asp Met Leu Arg Gln Leu Asp Leu Ser Pro  
130 135 140  
Gly Cys  
145

<210> 36  
<211> 146  
<212> PRT  
<213> Pan troglodytes

<400> 36  
Val Pro Ile Gln Lys Val Gln Asp Asp Thr Lys Thr Leu Ile Lys Thr  
1 5 10 15  
Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr Gln Ser Val Ser Ser  
20 25 30  
Lys Gln Lys Val Thr Gly Leu Asp Phe Ile Pro Gly Leu His Pro Ile  
35 40 45  
Leu Thr Leu Ser Lys Met Asp Gln Thr Leu Ala Val Tyr Gln Gln Ile  
50 55 60  
Leu Thr Ser Met Pro Ser Arg Asn Met Ile Gln Ile Ser Asn Asp Leu  
65 70 75 80  
Glu Asn Leu Arg Asp Leu Leu His Val Leu Ala Phe Ser Lys Ser Cys  
85 90 95  
His Leu Pro Trp Ala Ser Gly Leu Glu Thr Leu Asp Ser Leu Gly Gly  
100 105 110  
Val Leu Glu Ala Ser Gly Tyr Ser Thr Glu Val Val Ala Leu Ser Arg



115                      120                      125  
 Leu Gln Gly Ser Leu Gln Asp Met Leu Trp Gln Leu Asp Leu Ser Pro  
 130                      135                      140  
 Gly Cys  
 145

<210> 37  
 <211> 146  
 <212> PRT  
 <213> Pongo pygmaeus

<400> 37  
 Val Pro Ile Gln Lys Val Gln Asp Asp Thr Lys Thr Leu Ile Lys Thr  
 1                      5                      10                      15  
 Val Ile Thr Arg Ile Asn Asp Ile Ser His Thr Gln Ser Val Ser Ser  
 20                      25                      30  
 Lys Gln Lys Val Thr Gly Leu Asp Phe Ile Pro Gly Leu His Pro Ile  
 35                      40                      45  
 Leu Thr Leu Ser Lys Met Asp Gln Thr Leu Ala Val Tyr Gln Gln Ile  
 50                      55                      60  
 Leu Thr Ser Met Pro Ser Arg Asn Val Ile Gln Ile Ser Asn Asp Leu  
 65                      70                      75                      80  
 Glu Asn Leu Arg Asp Leu Leu His Val Leu Ala Phe Ser Lys Ser Cys  
 85                      90                      95  
 His Leu Pro Trp Ala Ser Gly Leu Glu Thr Leu Asp Arg Leu Gly Gly  
 100                      105                      110  
 Val Leu Glu Ala Ser Gly Tyr Ser Thr Glu Val Val Ala Leu Ser Arg  
 115                      120                      125  
 Leu Gln Arg Ser Leu Gln Asp Met Leu Trp Gln Leu Asp Leu Ser Pro  
 130                      135                      140  
 Gly Cys  
 145

<210> 38  
 <211> 167  
 <212> PRT  
 <213> Rattus norvegicus

<400> 38  
 Met Cys Trp Arg Pro Leu Cys Arg Phe Leu Trp Leu Trp Ser Tyr Leu  
 1                      5                      10                      15  
 Ser Tyr Val Gln Ala Val Pro Ile His Lys Val Gln Asp Asp Thr Lys  
 20                      25                      30  
 Thr Leu Ile Lys Thr Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr  
 35                      40                      45  
 Gln Ser Val Ser Ala Arg Gln Arg Val Thr Gly Leu Asp Phe Ile Pro  
 50                      55                      60  
 Gly Leu His Pro Ile Leu Ser Leu Ser Lys Met Asp Gln Thr Leu Ala  
 65                      70                      75                      80  
 Val Tyr Gln Gln Ile Leu Thr Ser Leu Pro Ser Gln Asn Val Leu Gln  
 85                      90                      95  
 Ile Ala His Asp Leu Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala  
 100                      105                      110  
 Phe Ser Lys Ser Cys Ser Leu Pro Gln Thr Arg Gly Leu Gln Lys Pro  
 115                      120                      125  
 Glu Ser Leu Asp Gly Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val  
 130                      135                      140  
 Val Ala Leu Ser Arg Leu Gln Gly Ser Leu Gln Asp Ile Leu Gln Gln  
 145                      150                      155                      160

Leu Asp Leu Ser Pro Glu Cys  
165

<210> 39  
<211> 167  
<212> PRT  
<213> Sus scrofa

<400> 39  
Met Arg Cys Gly Pro Leu Cys Arg Phe Leu Trp Leu Trp Pro Tyr Leu  
1 5 10 15  
Ser Tyr Val Glu Ala Val Pro Ile Trp Arg Val Gln Asp Asp Thr Lys  
20 25 30  
Thr Leu Ile Lys Thr Ile Val Thr Arg Ile Ser Asp Ile Ser His Met  
35 40 45  
Gln Ser Val Ser Ser Lys Gln Arg Val Thr Gly Leu Asp Phe Ile Pro  
50 55 60  
Gly Leu His Pro Val Leu Ser Leu Ser Lys Met Asp Gln Thr Leu Ala  
65 70 75 80  
Ile Tyr Gln Gln Ile Leu Thr Ser Leu Pro Ser Arg Asn Val Ile Gln  
85 90 95  
Ile Ser Asn Asp Leu Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala  
100 105 110  
Ser Ser Lys Ser Cys Pro Leu Pro Gln Ala Arg Ala Leu Glu Thr Leu  
115 120 125  
Glu Ser Leu Gly Gly Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val  
130 135 140  
Val Ala Leu Ser Arg Leu Gln Gly Ala Leu Gln Asp Met Leu Arg Gln  
145 150 155 160  
Leu Asp Leu Ser Pro Gly Cys  
165

<210> 40  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 40  
Glu Thr Leu Asp  
1

<210> 41  
<211> 4  
<212> PRT  
<213> Mus musculus

<400> 41  
Gln Lys Pro Glu  
1

<210> 42  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 42  
Leu Asp Ser Leu Gly Gly  
1 5

<210> 43  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 43  
Glu Lys Leu Glu  
1

<210> 44  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 44  
Glu Lys Pro Glu  
1

<210> 45  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 45  
Glu Lys Pro Asp  
1

<210> 46  
<211> 5  
<212> PRT  
<213> Homo sapiens

<400> 46  
Thr Pro Asp Ser Leu  
1 5

<210> 47  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 47  
Gly Leu Gln Thr Leu Asp Ser Leu Gly  
1 5

<210> 48  
<211> 5  
<212> PRT  
<213> Homo sapiens

<400> 48  
Gly Gly Val Leu Glu  
1 5

<210> 49  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 49  
Thr Pro Asp Ser Leu Gly  
1 5

<210> 50  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 50  
Ser Leu Gly Gly Val Leu Glu Ala Ser  
1 5

<210> 51  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 51  
Pro Glu Ser Leu Gly Gly  
1 5

<210> 52  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 52  
Pro Asp Ser Leu Gly Gly  
1 5

<210> 53  
<211> 7  
<212> PRT  
<213> Homo sapiens

<400> 53  
Leu Gly Gly Val Leu Glu Ala  
1 5

<210> 54  
<211> 22  
<212> PRT  
<213> Homo sapiens

<400> 54  
Glu Asn Leu Arg Asp Leu Leu His Val Leu Ala Phe Ser Lys Ser Cys  
1 5 10 15  
His Leu Pro Trp Ala Ser  
20

<210> 55  
<211> 22  
<212> PRT  
<213> Homo sapiens

<400> 55  
Leu Leu His Val Leu Ala Phe Ser Lys Ser Cys His Leu Pro Trp Ala  
1 5 10 15

Ser Gly Leu Glu Thr Leu  
20

<210> 56

<211> 22

<212> PRT

<213> Homo sapiens

<400> 56

Ala Phe Ser Lys Ser Cys His Leu Pro Trp Ala Ser Gly Leu Glu Thr  
1 5 10 15  
Leu Asp Ser Leu Gly Gly  
20

<210> 57

<211> 22

<212> PRT

<213> Homo sapiens

<400> 57

Cys His Leu Pro Trp Ala Ser Gly Leu Glu Thr Leu Asp Ser Leu Gly  
1 5 10 15  
Gly Val Leu Glu Ala Ser  
20

<210> 58

<211> 18

<212> PRT

<213> Homo sapiens

<400> 58

Leu Pro Trp Ala Ser Gly Leu Glu Thr Leu Asp Ser Leu Gly Gly Val  
1 5 10 15  
Leu Glu

<210> 59

<211> 14

<212> PRT

<213> Homo sapiens

<400> 59

Trp Ala Ser Gly Leu Glu Thr Leu Asp Ser Leu Gly Gly Val  
1 5 10

<210> 60

<211> 21

<212> PRT

<213> Homo sapiens

<400> 60

Ala Ser Gly Leu Glu Thr Asp Ser Leu Gly Gly Val Leu Glu Ala Ser  
1 5 10 15  
Gly Tyr Ser Thr Glu  
20

<210> 61

<211> 10

<212> PRT

<213> Homo sapiens

<400> 61  
 Ser Gly Leu Glu Thr Leu Asp Ser Leu Gly  
 1                      5                      10

<210> 62  
 <211> 22  
 <212> PRT  
 <213> Homo sapiens

<400> 62  
 Thr Leu Asp Ser Leu Gly Gly Val Leu Glu Ala Ser Gly Tyr Ser Thr  
 1                      5                      10                      15  
 Glu Val Val Ala Leu Ser  
                     20

<210> 63  
 <211> 22  
 <212> PRT  
 <213> Homo sapiens

<400> 63  
 Gly Gly Val Leu Glu Ala Ser Gly Tyr Ser Thr Glu Val Val Ala Leu  
 1                      5                      10                      15  
 Ser Arg Gly Gln Gly Ser  
                     20

<210> 64  
 <211> 22  
 <212> PRT  
 <213> Mus musculus

<400> 64  
 Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala Phe Ser Lys Ser Cys  
 1                      5                      10                      15  
 Ser Leu Pro Gln Thr Ser  
                     20

<210> 65  
 <211> 22  
 <212> PRT  
 <213> Mus musculus

<400> 65  
 Leu Leu His Leu Leu Ala Phe Ser Lys Ser Cys Ser Leu Pro Gln Thr  
 1                      5                      10                      15  
 Ser Gly Leu Gln Lys Pro  
                     20

<210> 66  
 <211> 22  
 <212> PRT  
 <213> Mus musculus

<400> 66  
 Ala Phe Ser Lys Ser Cys Ser Leu Pro Gln Thr Ser Gly Leu Gln Lys  
 1                      5                      10                      15  
 Pro Glu Ser Leu Asp Gly  
                     20

<210> 67  
<211> 22  
<212> PRT  
<213> Mus musculus

<400> 67  
Cys Ser Leu Pro Gln Thr Ser Gly Leu Gln Lys Pro Glu Ser Leu Asp  
1 5 10 15  
Gly Val Leu Glu Ala Ser  
20

<210> 68  
<211> 18  
<212> PRT  
<213> Mus musculus

<400> 68  
Leu Pro Gln Thr Ser Gly Leu Gln Lys Pro Glu Ser Leu Asp Gly Val  
1 5 10 15  
Leu Glu

<210> 69  
<211> 14  
<212> PRT  
<213> Mus musculus

<400> 69  
Gln Thr Ser Gly Leu Gln Lys Pro Glu Ser Leu Asp Gly Val  
1 5 10

<210> 70  
<211> 22  
<212> PRT  
<213> Mus musculus

<400> 70  
Thr Ser Gly Leu Gln Lys Pro Glu Ser Leu Asp Gly Val Leu Glu Ala  
1 5 10 15  
Ser Leu Tyr Ser Thr Glu  
20

<210> 71  
<211> 10  
<212> PRT  
<213> Mus musculus

<400> 71  
Ser Gly Leu Gln Lys Pro Glu Ser Leu Asp  
1 5 10

<210> 72  
<211> 22  
<212> PRT  
<213> Mus musculus

<400> 72  
Lys Pro Glu Ser Leu Asp Gly Val Leu Glu Ala Ser Leu Tyr Ser Thr  
1 5 10 15

Glu Val Val Ala Leu Ser  
20

<210> 73  
<211> 22  
<212> PRT  
<213> Mus musculus

<400> 73  
Asp Gly Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val Val Ala Leu  
1 5 10 15  
Ser Arg Leu Gln Gly Ser  
20

<210> 74  
<211> 67  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide Chimeric oligonucleotides

<400> 74  
atgcaacagg acggacttgg agtagttttc uacuccaagt cagtccuguu gcaugcgcgt 60  
ttcgcgc 67

<210> 75  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide Forward Primer

<400> 75  
tgtccacgtc gtttacgctc 20

<210> 76  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide Reverse Primer

<400> 76  
tcccacttcc gttccttgctc 20

<210> 77  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide Probes endogenous/mutant

<400> 77  
cctactccaa gtcmgctcctg ttgcatt 27



<210> 78  
 <211> 67  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> oligonucleotide Chimeric oligonucleotides  
  
 <400> 78  
 gaccctgccc tgtacctacc taccagatgt tttcaucugg uaggttcagg gcagggucgc 60  
 gcgtttt 67  
  
 <210> 79  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> oligonucleotide Forward Primer  
  
 <400> 79  
 gtggtgatcc tcttccagcc t 21  
  
 <210> 80  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> oligonucleotide Reverse Primer  
  
 <400> 80  
 ccagatgacg atggggttgc 19  
  
 <210> 81  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> oligonucleotide Probes endogenous/mutant  
  
 <400> 81  
 accctgccct gwcctaccag atgac 25  
  
 <210> 82  
 <211> 68  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> oligonucleotide Chimeric oligonucleotides  
  
 <400> 82  
 tggctgagct cttacctggt tttcattttt gaaaaccagg tcagagctca gccagcgcggt 60  
 tttcgcgc 68  
  
 <210> 83  
 <211> 20

<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> oligonucleotide Forward Primer  
  
 <400> 83  
 gagctcatcg tccttgggag 20  
  
 <210> 84  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> oligonucleotide Reverse Primer  
  
 <400> 84  
 agtcttctat gggccccgc 19  
  
 <210> 85  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> oligonucleotide Probes endogenous/mutant  
  
 <400> 85  
 caccgactcg agamtggacc aaaagtc 27  
  
 <210> 86  
 <211> 68  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> oligonucleotide Chimeric oligonucleotides  
  
 <400> 86  
 ggttggtgta tgcctggctg ccttcttttg aaggcagcca gtcataccac aaccgcgcgt 60  
 tttcgcgc 68  
  
 <210> 87  
 <211> 20  
 <212> DNA  
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